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ELEMENTARY INDUCTIVE GEOGRAPHY.

BY DAVIS & DEANE.

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ELEMENTARY

INDUCTIVE GEOGRAPHY

BY

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AND

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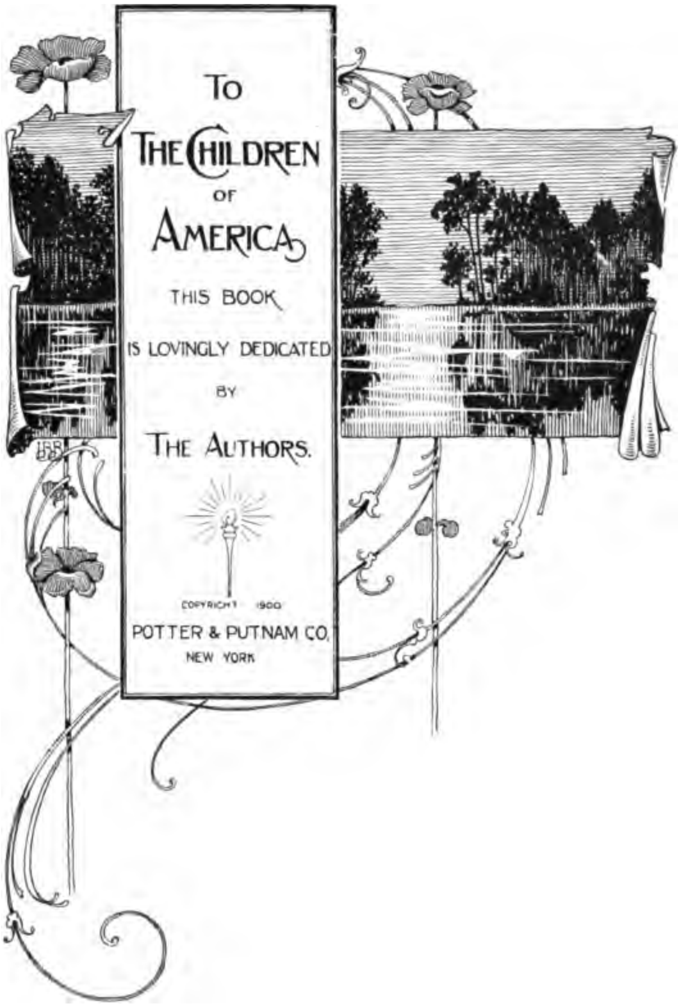

To
THE CHILDREN
OF
AMERICA
THIS BOOK
IS LOVINGLY DEDICATED
BY
THE AUTHORS.

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NEW YORK

PREFACE.

The Elementary Inductive Geography is designed for use in the third, fourth, and fifth school years. It is the outcome of several years of experience in teaching geography to all grades, and of the supervision of geography-teaching in certain particular grades. During these years the interests, needs, and difficulties of pupils in this subject were carefully noted and studied.

The authors have endeavored not only to produce a thoroughly usable book for pupils, but also to place in the hands of teachers a text in which is brought together such material as has usually to be gathered with much trouble from many different sources.

In its plan the book deals first, in Part I., with that in which the child is most interested: the life about him—in plants and animals and their various relations to himself and to the body of people he knows—in the diverse industries in which these people are engaged in order to secure a living—in the social life of the people as this may be affected by the peculiar nature of each season of the year. By means of illustrations and text the child's interest is awakened in the life of other countries, and he is led to note the influence of the various seasonal and climatic conditions upon his life.

The social or life phases should be studied first, for the reason that children's interests naturally center in these. They should be studied as a preparation for the more complete understanding of geography and to awaken a broader interest and give a deeper insight into the social life of the world.

Having secured and intensified these natural interests, pupils easily become interested in the physical features of the home district, in Part II., and the relation in which these physical features stand to the industrial and social life of the people. Physical features now assume a new and living interest, because pupils clearly recognize their influence upon the life of the people in its various aspects.

Following the study of the physical features, a careful drill is given in the making and reading of physical and political maps, in order that with the knowledge gained through the study of the physical and social aspects of the home district, and through the interrelated reading, the pupils may be prepared to enter intelligently upon the study of the political divisions of the world in a much broader manner.

The authors have endeavored to present the study of the political divisions, in Part III., in such a way as to sustain the interest of the pupils in the different phases of social and industrial life and to emphasize their dependence upon the various physical conditions; thereby creating a living interest in the heretofore dry subject of locative geography.

Acknowledgments.—The authors desire to express their thanks:

To Dr. Edward R. Shaw, for his valuable advice and helpful criticism in the preparation of this book.

To Dr. Thomas M. Balliet and Henry T. Bailey, who have kindly given many valuable suggestions.

To Isaac B. Beales, the artist, for the patient, careful, and artistic manner in which he has carried out the suggestions of the authors in the arrangement of illustrations and in the making of the relief maps.

To Miss Euphrosyne Bown, Teacher and Supervisor of Geography in the Normal Training School, Bridgeport, Conn., for the careful preparation of the excellent list of interrelated reading material to be used in connection with the study of the text.

To many others, the mention of whose names space will not permit, who have generously aided the authors by contributing valuable illustrative material.

It is to be hoped that this book will be a source of much pleasure to the children for whom it is written and that it will awaken in them an ever-increasing interest in the subjects which are presented.

MARY R. GALE DAVIS.
CHAS. W. DEANE.

BRIDGEPORT, CONN., 1901.

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PART I.

INTRODUCTION TO GEOGRAPHY.

OUR EARTH.

We live upon a great round ball or sphere. It is called the EARTH.

There are many wonderful and beautiful things about this earth of ours of which we shall learn.

THE CHILD'S WORLD.

Great, wide, beautiful, wonderful World,
With the wonderful water round you curled,
And the wonderful grass upon your breast,
World, you are beautifully dressed.

The wonderful air is over me,
And the wonderful wind is shaking the tree;
It walks on water, and whirls the mills,
And talks to itself on the tops of the hills.

You, friendly Earth, how far do you go,
With the wheat-fields that nod, and the rivers
that flow,
With cities and gardens, and cliffs and isles,
And people upon you for thousands of miles?

Ah! you are so great, and I am so
small,
I hardly can think of you, World, at
all;
And yet, when I said my prayers to-day,
A whisper within me seemed to say:

"You are more than the earth, though
you're such a dot!
You can love and think, and the earth
cannot!"

—*Selected.*

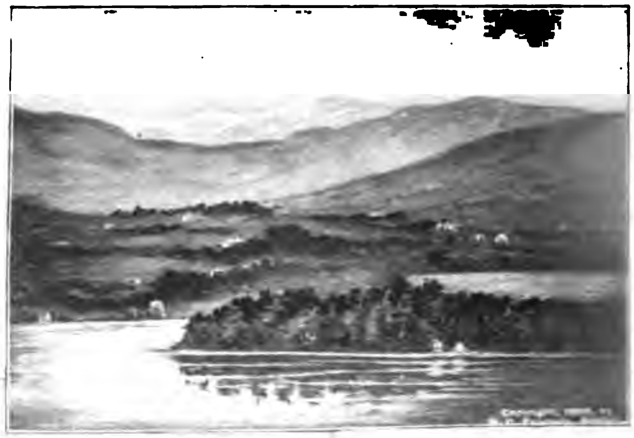
LAND AND WATER.

Our homes, school-houses, churches, factories, and all buildings are upon *land.* Name other objects that are upon land.

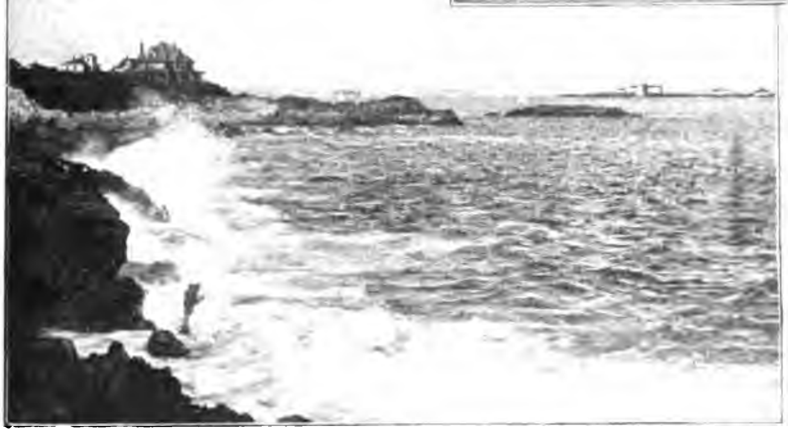
Think of the nearest stream, pool, or body of *water* which you know. What can you tell about it?

The entire outside of the earth is made up of land and water.

In which of the pictures on this page is more land to be seen than water?



LAKE WINNEPESAUKEE AND THE WHITE MOUNTAINS.



MARBLEHEAD NECK, COAST OF MASSACHUSETTS.

In which picture is more water to be seen than land?

In some parts of the earth there is much more land to be seen than water. In other parts there is much more water to be seen than land.

In the world-pictures on the next page the darker parts show what is land and the lighter parts what is water.

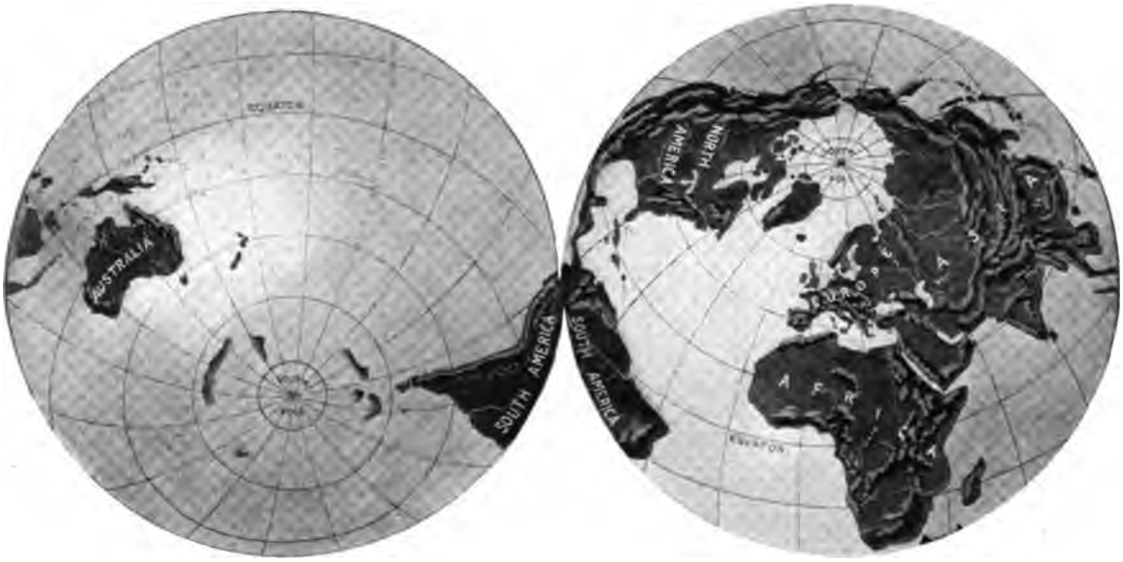
How does the amount of water shown in the world-pictures compare with the amount of land shown?

There is much more water than land on the earth, there being three times as much water as land.

CONTINENTS AND ISLANDS.

Trace entirely around the great divisions of land in the earth-pictures on this and the following page with your finger or a small pointer.

You find two large divisions and one smaller division entirely surrounded by water. These are *continents*.



THE LAND AND WATER OF OUR EARTH.

They are divided into six Grand Divisions: North America, South America, Europe, Asia, Africa, and Australia.

(Europe and Asia together form Eurasia.)

Find each grand division in the world-pictures. Tell which are connected.

We live in North America.

North America and South America form the Western Continent; Eurasia and Africa the Eastern Continent; Australia the Australian Continent.

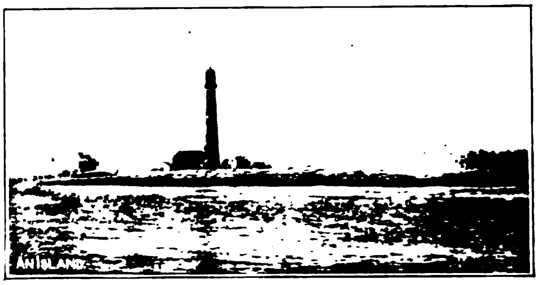
(Each of these grand divisions is, however, often spoken of as a continent.)

The Western Continent is also spoken of as the New World, and the Eastern and Australian Continents as the Old World. This is because for a long time the Western Continent was supposed to have been discovered and settled long after the Eastern Continent.

On the next page is the picture of an *island*. Trace around it and tell by what it is entirely surrounded. Trace around other islands in the world-pictures. Tell how they differ from the Eastern and Western Continents.

There are many islands on our earth. Some of them are very large, and some are very small. Many people live on the islands of the world.

There are many groups of islands on our earth. Find them in the world-pictures.

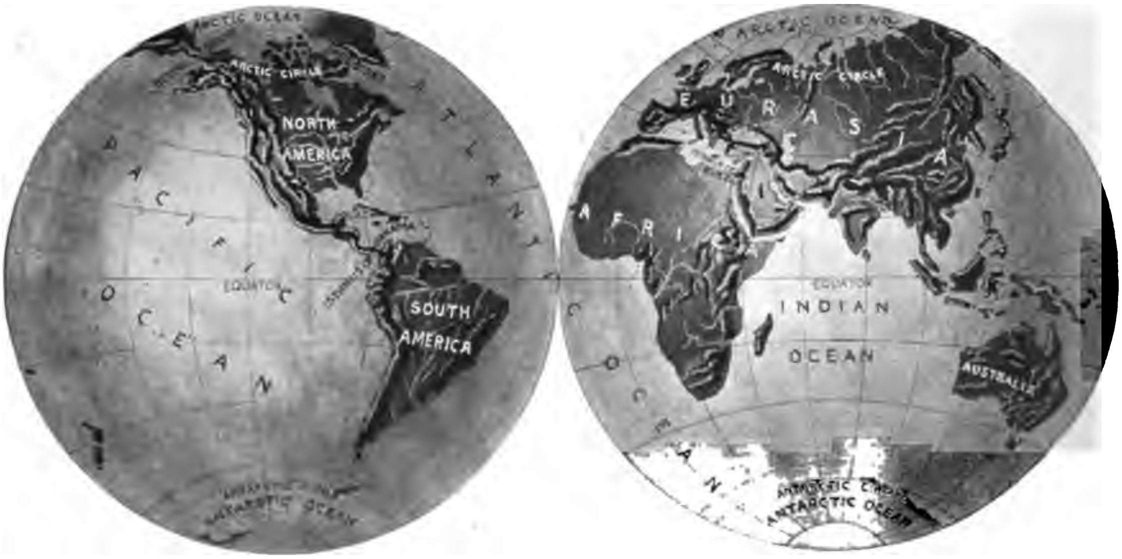


All the land on the earth above the surface of the water consists of either CONTINENTS *or* ISLANDS.

Continents are the very large bodies of land which rise above the water by which they are entirely surrounded. Islands are the smaller bodies of land which rise above the surrounding water.

Tell which continent is the largest; which the smallest. Trace the nearest way by land from the Eastern to the Western Continent. Trace a land route from North America to South America; from Asia to Africa.

Find islands in the pool or pond near your home or school. See how many you can find, after a rain, in the mud-puddles.



THE CONTINENTS AND ISLANDS OF OUR WORLD.

HIGH LAND, LOW LAND, AND SLOPES.

Some of the land surface of our earth is very *high* and *mountainous.*

The mountains in the picture on page 12 are very high; no trees or plants grow on their summits. What do you see instead? Where are the trees growing? What kind of trees do they appear to be?

Do you know of any mountainous land near your school? If so, tell what you can about it.

Some of the land on our earth is very *low* and *flat.*

Observe how this low, flat land, in the

GRAND DIVISIONS OF OUR EARTH

pictures, stretches away in the distance as far as the eye can see. It is a *plain.*

HIGH, MOUNTAINOUS LAND.

These plains are called *prairies*, because they are covered with grass.

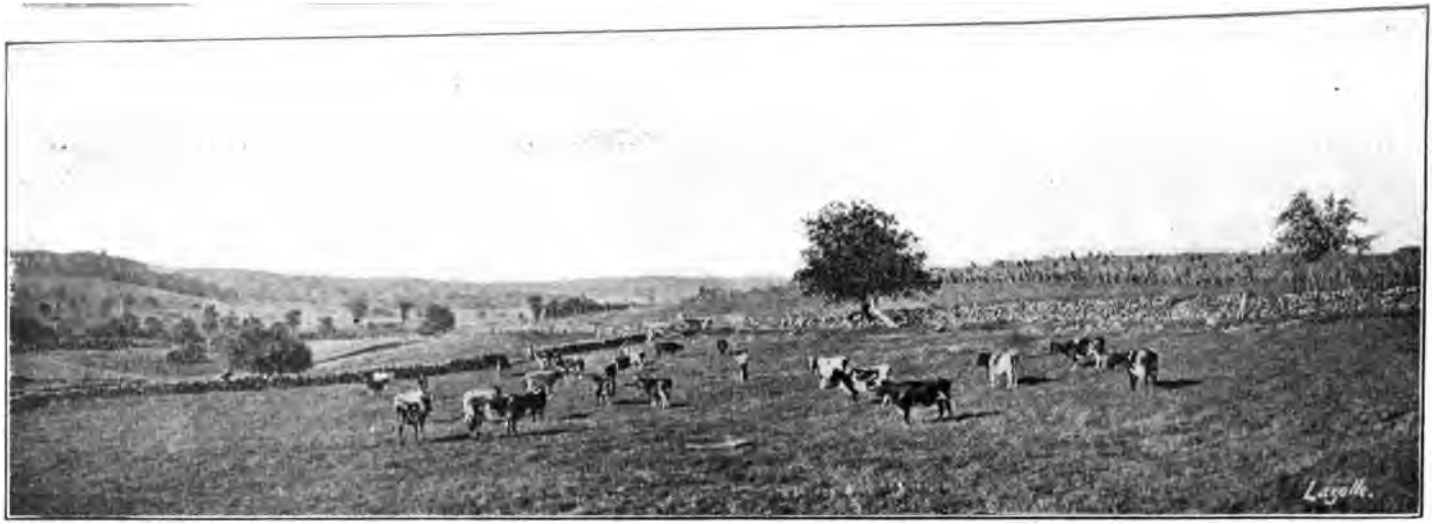
Do you know of any low, flat land or plain near your home or school? If so, tell what grows on it. Describe the two scenes of low, flat land on this page.

Some of the land of our earth is neither very high nor very low and flat. It may be *hilly*, or it may be irregular, *rolling land.*

The foreground of the picture on the next page consists of rolling land, but you can see the low hills in the distance. Do you know of any such land in your neighborhood? If so, tell what you can about it.

Find the stream, the road, and the corn, in the picture. Tell where you think the stream flows. Where do you suppose the stones were found for building the stone wall? Tell what you can about the living objects in the picture and what they are doing.

LOW, FLAT LAND.



HILLY AND ROLLING LAND.

The part between the high land and the low land is the *slope*. The high land *slopes* or *inclines* to the low, flat land.

Some high land descends *gradually* to the low land, forming a *gradual slope.*

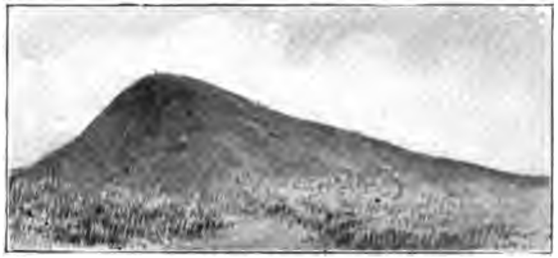
Some land descends very *abruptly* to the low land, forming an *abrupt slope.*

Find gradual and abrupt slopes in the pictures on this and preceding pages. Also find them in your school district or neighborhood.

Find highlands, lowlands, and slopes in the world-pictures. Bring in pictures representing as many different highlands, lowlands, and slopes as possible. Arrange them neatly on stiff manilla or white paper.

All the land surface of our earth is made up of HIGH LAND *and* LOW LAND.

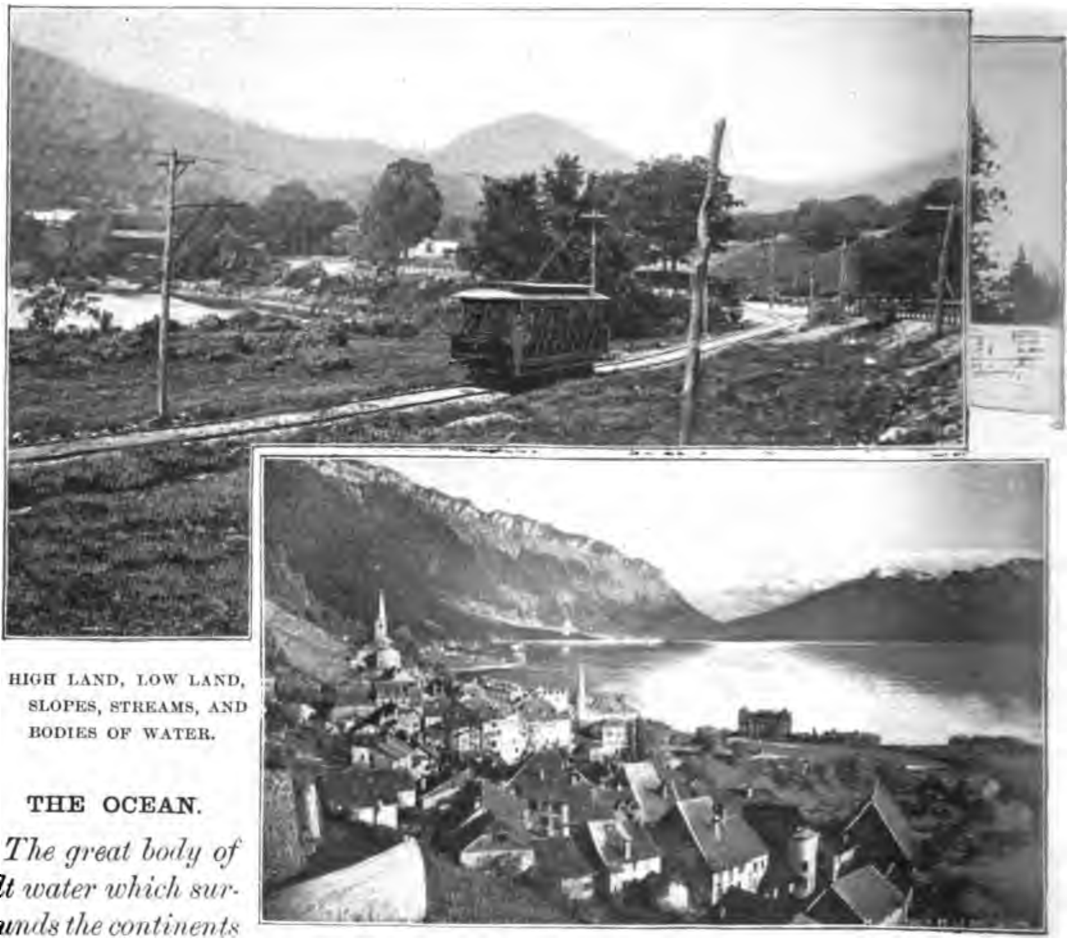
In many places on our earth one looks out on highlands, lowlands, and slopes, streams and bodies of water.



A HILL WITH A GRADUAL AND AN ABRUPT SLOPE.

Find the highlands, lowlands, slopes, stream, and body of water in the pictures on the next page. In which does the land appear more hilly? In which does it appear mountainous?

One of these pictures is a scene in the Alps in Europe; the other is in New England. Tell which is in the Alps, and why you think so. Find the covered bridge in the upper picture. What are the indications of life in each picture?



HIGH LAND, LOW LAND, SLOPES, STREAMS, AND BODIES OF WATER.

THE OCEAN.

The great body of salt water which surrounds the continents and most of the islands of the world is the OCEAN *or* SEA.

The ocean covers about three-fourths of the earth.

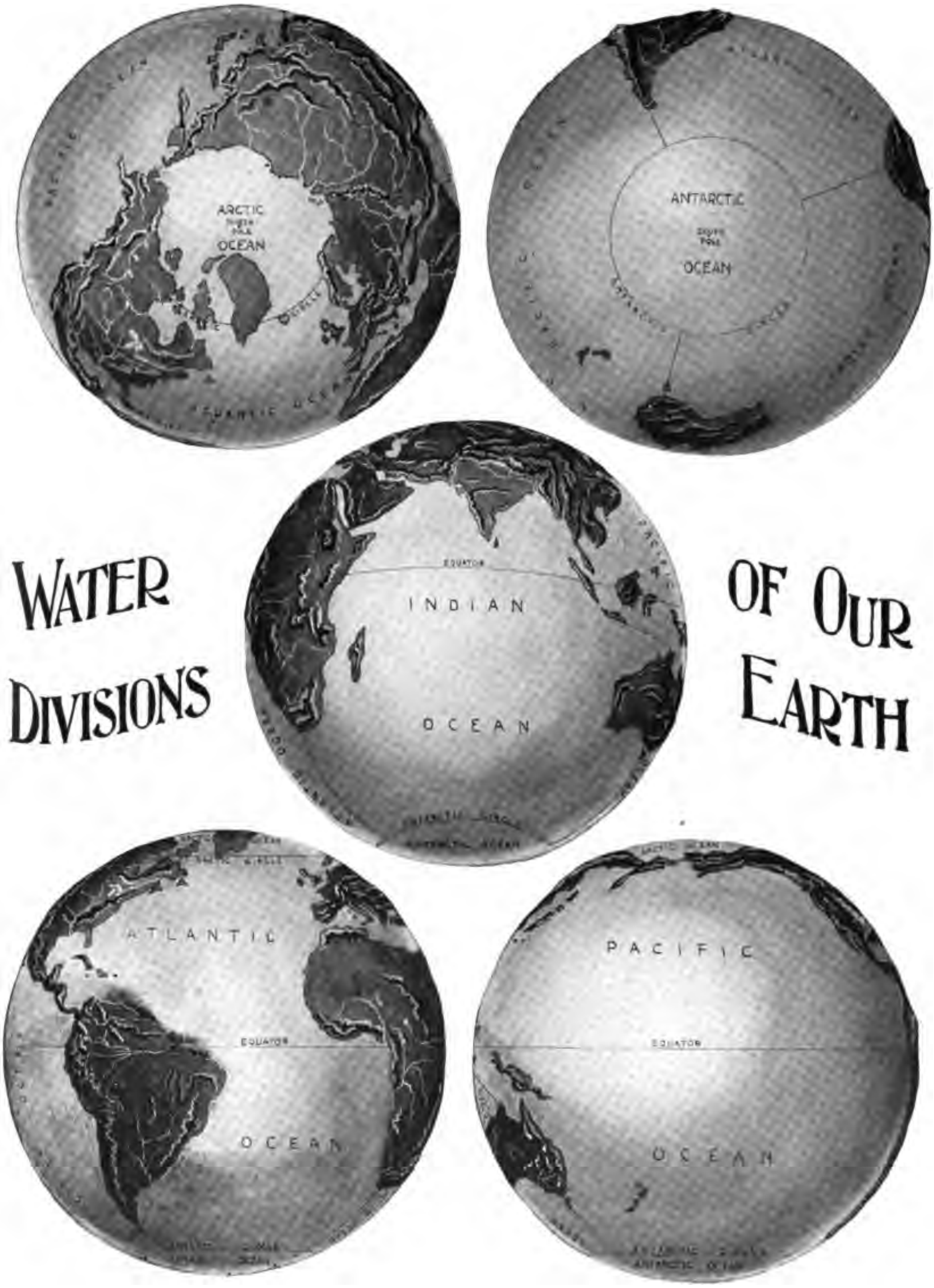
Draw a circle and show proportion of land and water.

The ocean has five divisions—the Arctic, Atlantic, Pacific, Indian, and Antarctic.

Find each division or ocean in the world-p tures. Trace around each. Tell what other oce lie around each ocean division. What oceans around North America? South America? Afr Eurasia? Australia? Which ocean seems larg Which smallest? Which seems most inclose by land? Through what water would yo pass from the Arctic to the Pacific? From th Arctic to the Atlantic?

The land bordering the ocean is th *sea-coast* or *sea-shore.* Trace the sea-coas of each continent. Which continent have the most regular coast?

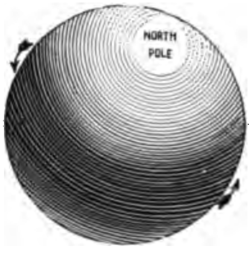
Have you ever seen the ocean? If so, tell all you can about it. If you have not, ask someone who has, and tell what you learn.

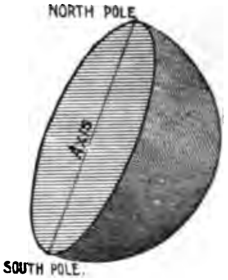


WATER DIVISIONS OF OUR EARTH

DAY AND NIGHT.

Turn a top slowly around, looking at the peg while you turn. Now spin the top. You see there is a central line around which all the rest of the top turns. This line passes through the top, and is called its *axis.* The top spins around on its axis.





Note to Teacher.—A globe should be used in presenting this subject.

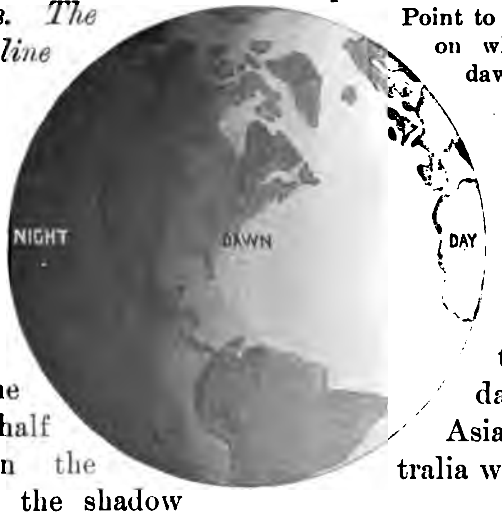
The AXIS *of the earth is the line passing through the center of the earth on which the earth turns. The points or ends of this line are called the* POLES.

There are the North and the South Poles. Find each. The earth turns completely around on its axis from west to east, once in every twenty-four hours. From the picture you see that half of the earth is in the light, and half is in the shadow or darkness. You also see that while some parts are having dawn, in other parts darkness is approaching. The half of the earth upon which the sun is shining is in daylight and warmth; the other half is cooler and in the night.

The sun lights and heats the earth.

The days and nights are not of equal length in all parts of the earth.

A little further on we shall learn more about the length of the days and nights.



What grand divisions are having day in the picture? What ones are having night? Point to the part of North America on which day is beginning to dawn.

As the earth turns toward the sun, dawn will creep across the whole of North America and South America until they are both in broad daylight. Then Europe, Asia, Africa, and Australia will be in darkness.

In the picture which part may be growing warmer? Which part may soon be cooler? Why do you think so? Draw the earth and sun so as to illustrate the cause of day and night.

SNOWBOUND.

TRAVELING IN NORWAY.

CUTTING ICE IN NEW ENGLAND.

SLEIGHING.

SKATING.

EVIDENCES OF WINTER.

THE SEASONS.

Most of us in this country live where the weather is cold in WINTER. The days are short, with little sunshine. We have little time for play during the day, but we have nice long evenings for reading, study, and games. Some places have a great deal of snow and ice.

If you have snow where you live, tell about it. What sports do you enjoy in winter? How do people travel? What work can people do in winter which they cannot do in summer? Tell what you can of the plants in winter; where they are and what they are doing.

Tell what you can of the animals in winter; where they are and what you think they are doing. What can you tell about the streams and pools of water in winter? Where are the animals which live in them? How do you think they keep warm? How are your homes warmed? How are you dressed in winter? What food do you eat? Whence do the fruits and vegetables come at this season? When were they gathered and stored? Go to the market and learn what fruits or vegetables are to be procured. Whence did they come?

Study the scenes in the picture on page 17. Describe each. Tell which you like best, and why. Keep a record of the clear days during the winter; also of the stormy, the very cold, and the windy days.

We have very warm weather in SUMMER. The days are long and full of sunshine, giving us a long time for work or play in daylight, but we have very short evenings. During the long day the land surface often becomes so heated from the hot rays of the sun that the nights are very warm.

What games do you enjoy most in summer? What work do you find people doing in summer? In what different ways can people travel? Tell of the streams in summer; of the animals; the trees and plants. How do we keep our homes cool? How do we dress? What food do we that we may not be able to procure in winter

Study each scene on page 19. Tell what people, the horses, and the cows are doing. W are the indications of summer?

Keep a record of the number of stormy d also of the bright clear days, the cloudy, and showery days.

Between winter and summer we h SPRING. All through the spring daylight is becoming longer and evenings shorter. The weather is coming warmer.

Study the pictures on page 21. Tell of the dications of spring. Tell of other indicat which you may know. What are the birds do The animals? The people you know? W flowers peep out among the first in spring? W changes of clothing do we make? Keep a rec of the cool, the warm, the clear, and the stor days.

Between summer and winter we h AUTUMN *or* FALL. The daylight is gr ing shorter and the evenings long through the autumn, and the weather becoming colder.

In the picture on page 23 what indications ha we of autumn? What changes are the anim making in the fall? The birds? The trees a plants? What changes of clothing do most peo make in the fall? How are many people prepari for winter? Keep a record the same as for spri

During the spring and autumn weather is not so cold as in winter so warm as in summer.

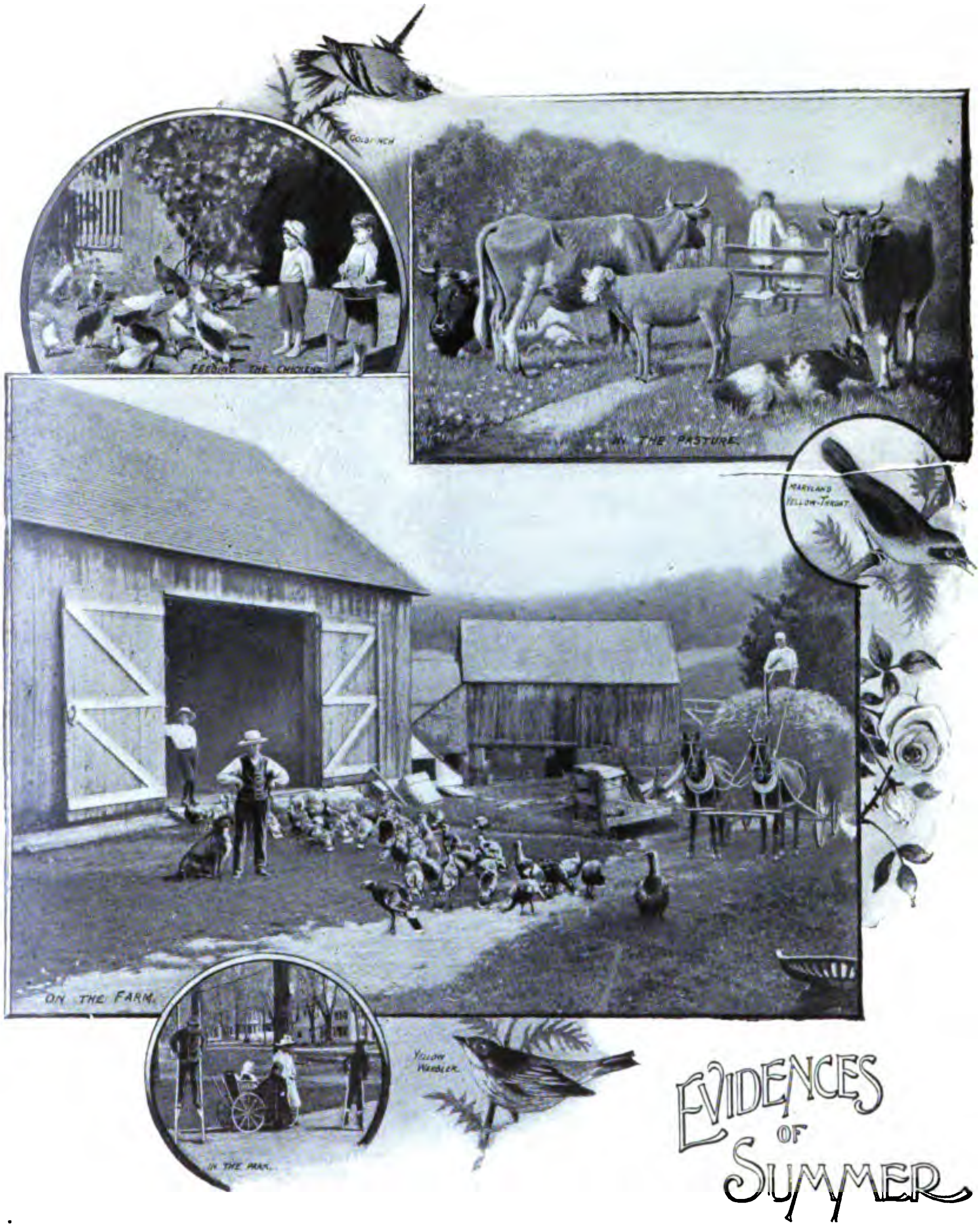
We call spring, summer, autumn, a winter the FOUR SEASONS.

There are four seasons in most te perate countries.

The four seasons make up a year of twel months. How many days are there in a yea How many weeks?

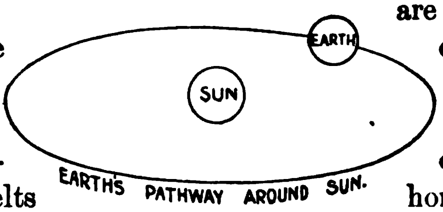
From about the 20th of March until about th 20th of June we have spring; from about Jun

EVIDENCES OF SUMMER

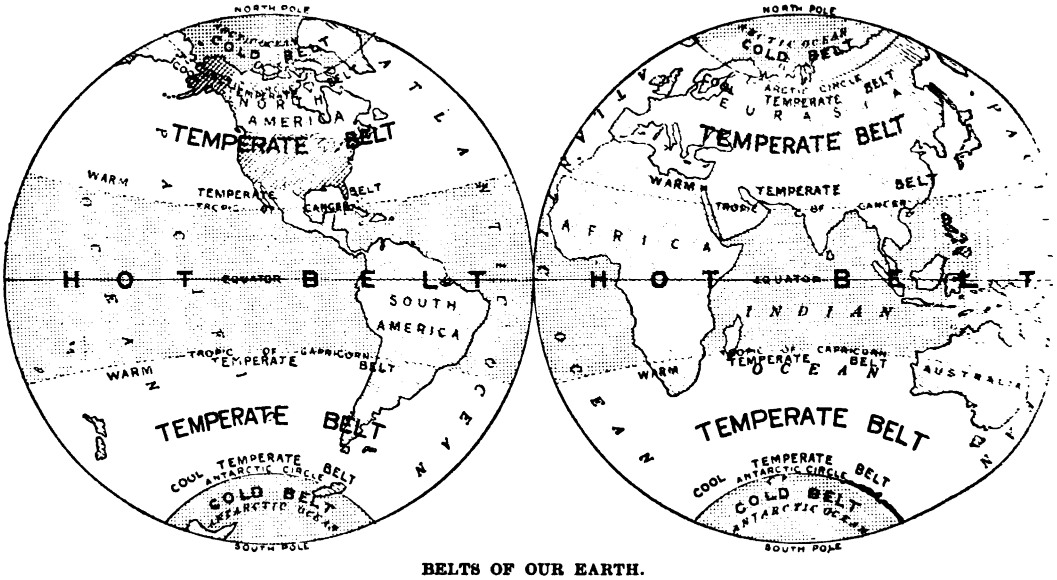


20th until about September 20th we have summer; from September 20th until about December 20th we have autumn, and from December 20th until about March 20th we have winter.

A year is marked by the time it takes the earth to travel in its pathway around the sun.



A great many people on our earth live in temperate countries, which lie in the two *temperate belts.* In these belts the days and nights are of unequal length for most of the year. There are four seasons in temperate countries, with weather similar to that of our own country. The people need to make changes in their clothing in the spring and fall the same as we make. They need homes which can be made warm in winter and cool in summer. They store food for themselves and for their animals for winter use.

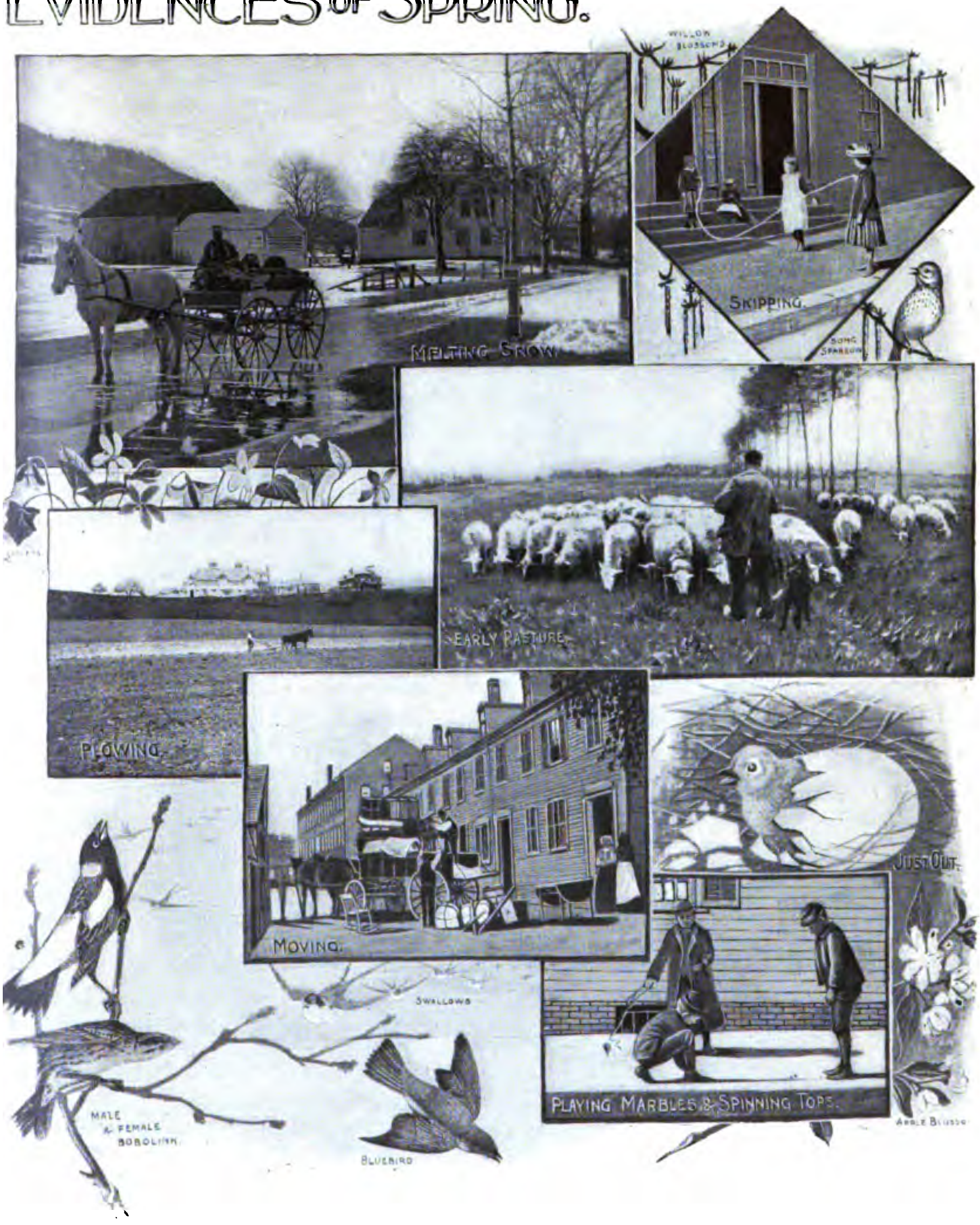


BELTS OF OUR EARTH.

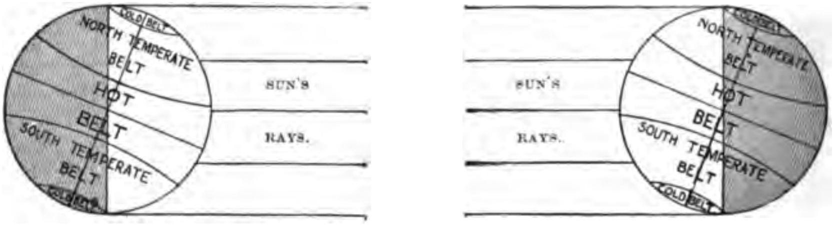
A large number of people live w the weather all the year is similar to of our summers. This is in the *hot* where the days and nights are of ne equal length. In the hot countries t are a rainy and a dry se during the year. people need clothing at any of the year, and homes are built for cool and air. They do not need to s food for the cold season. They little energy for work or for play.

A few people live in the *cold be* where the weather for most of the year similar to that of our winters. For t greater part of the year there are sn and ice, and in some places the ice nev entirely disappears. In these belts th days and nights are of very unequ length. During one part of the ye

EVIDENCES OF SPRING.



there is a continuous day. Half a year later there is a continuous night. During a very short summer, in the cold countries, the snow and ice melt from the surface in most places, but the ground never thaws below twelve inches. The people dress in furs and skins, and their homes are built to protect them from the cold of the long winter. They are obliged to store food and material for light and heat to last the greater part of the year. As they have no coal and no trees, they build their homes of snow, blocks of ice, and sod. They live on animal food. The fat from animals furnishes them with light and heat. It is so cold that they have little energy, and are unable to provide for more than the bare necessities of life.



ILLUSTRATING CHANGE OF SEASONS.

The Equator.—For convenience in measuring distances the surface of the earth is divided into two equal parts by an imaginary line, called the Equator. It extends around the earth midway between the poles. Find it in the world-pictures.

All people who live south of the EQUATOR *have summer while we have winter, and spring while we have fall.*

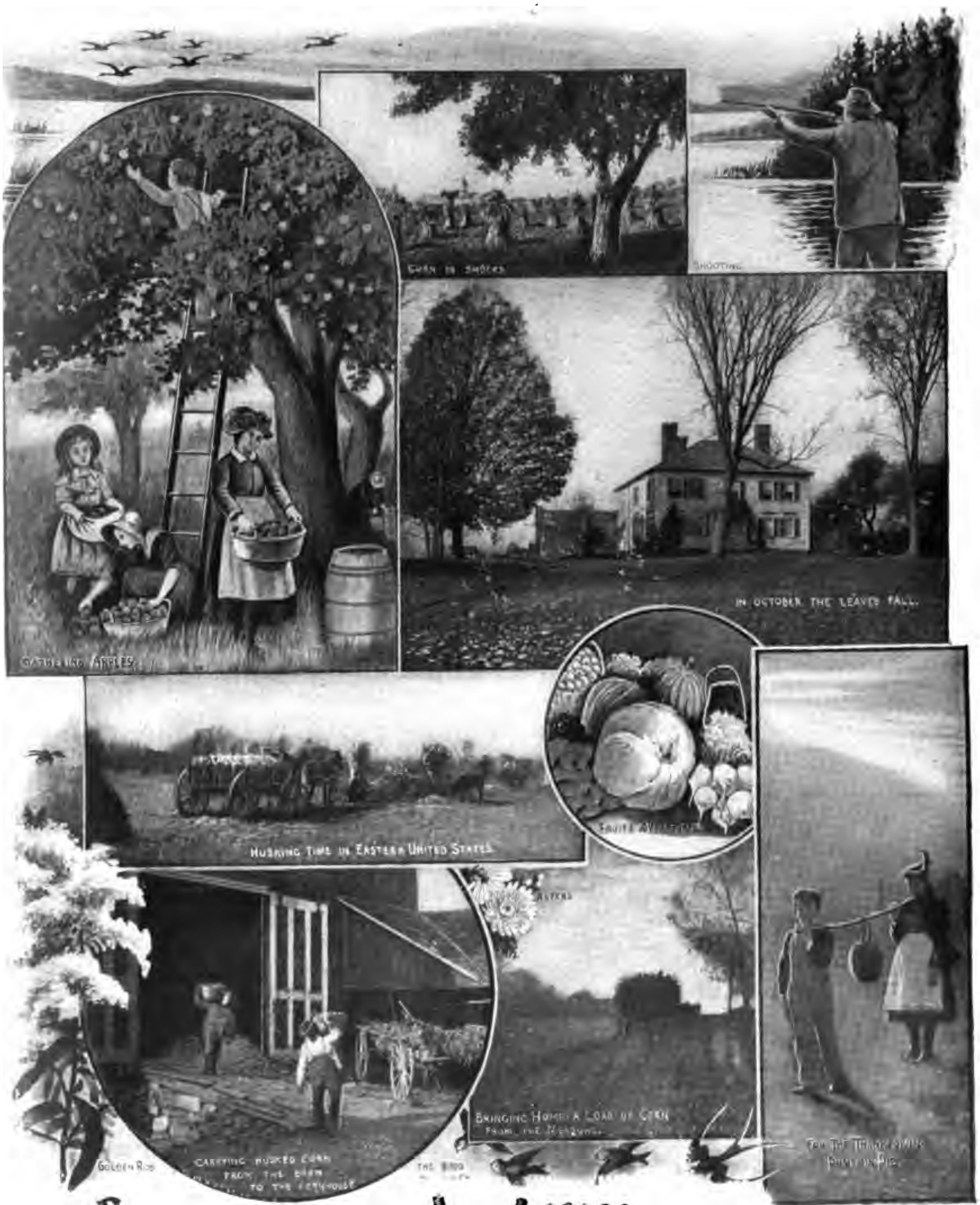
As our days are growing shorter and colder their days are becoming longer and warmer. Imagine yourself in South America, Africa, or Australia, and tell us the conditions of each season.

The earth's axis is inclined so that the North Pole always points in the same direction—towards the North or Polar Star. Ask your teacher to point it out to you. Because of this the whole northern part of the earth is turned towards the sun for a part of the year, and all places north of the Equator are then having summer. *See illustration.* The northern half is turned away from the sun for the other part of the year, and the southern half is turned towards the sun. Then all places south of the Equator are having summer while those north of the Equator are having winter.

The people north of the Equator are having spring and are approaching summer while those south of the Equator are having autumn and are approaching winter.

All countries north of the Equator have the opposite season from the countries south of the Equator.

What season are the people south of the Equator now having? What season are they approaching? When we are having summer north of the Equator, on what part of the earth do the sun's shortest rays fall? When we are having winter, where do the shortest rays fall? You see by the picture that the shortest, and the hottest, rays fall on that part of the earth which is nearest the sun.



EVIDENCES OF AUTUMN.

A SCHOOL GARDEN.

PLANT LIFE.

Many wild plants, grasses, and trees may grow naturally near your home or school.

See how many of the wild plants in your neighborhood you can call by name. Which are vines? Which are shrubs?

Bring the plants into school, and we will learn the names of those we do not know and something of the habits of all plants.

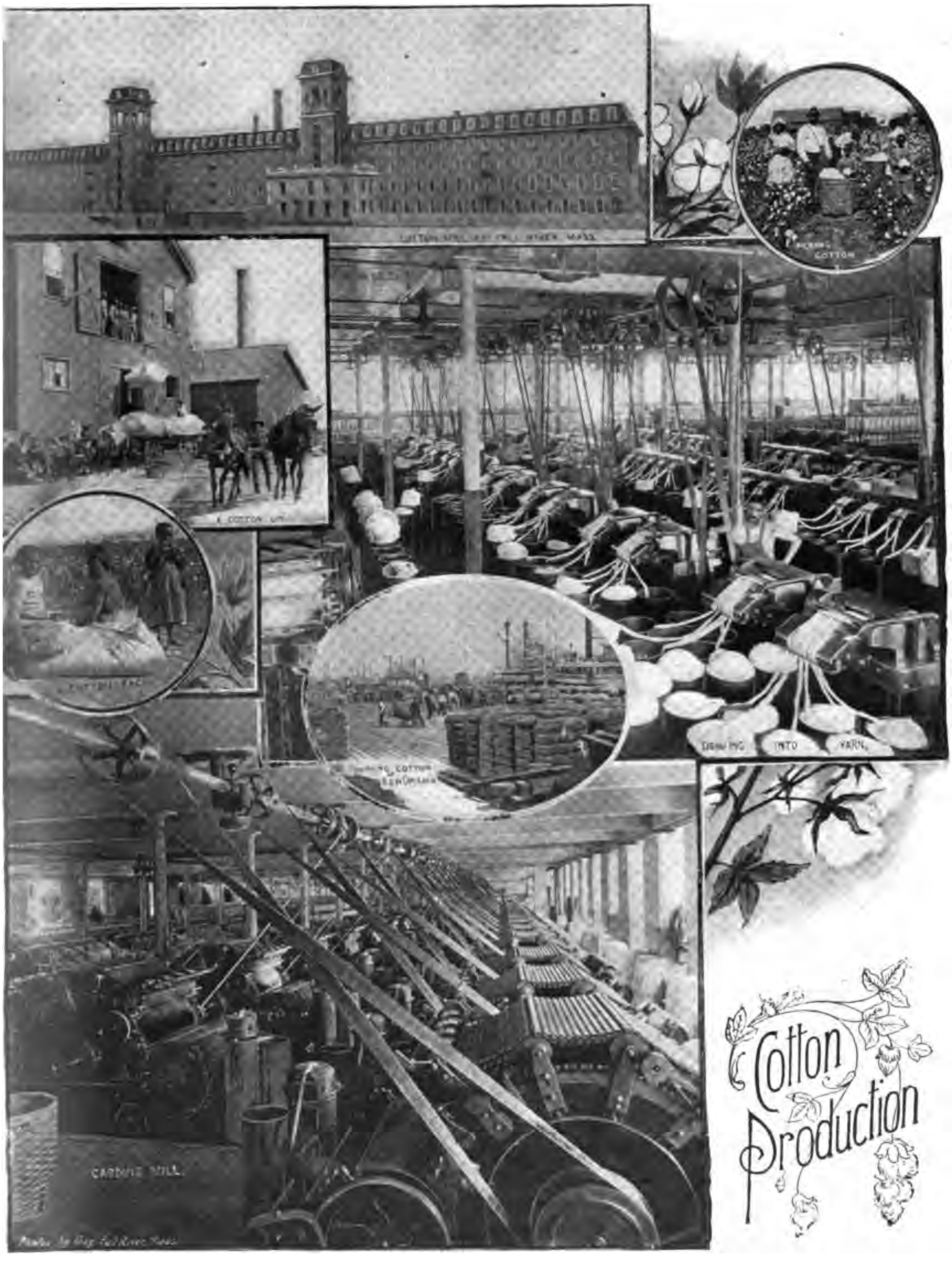
Plants have habits as well as boys and girls. Remember where you find each plant growing—by the side of water, on low, wet land, or on the higher, drier ground. This will help us to find out what each plant needs in order t and thrive.

Plants require food as peopl The plants take their food from soil in which they grow.

The above is the picture of a real school ga where the children have planted the seeds ar now studying the plants to see how they Describe it. You should have a little gard your own, if it is only in a window box.

Some plants live many years. out which of those brought into sc belong to this class. Some live one others two years. Which are these

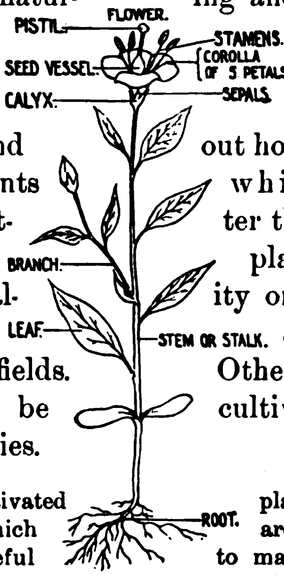
Many plants are *beautiful;* others *useful* to mankind and animals; w some are both beautiful and us Some plants seem *useless,* and we them *weeds.*


COTTON MILL AT FALL RIVER, MASS.
PICKING COTTON
A COTTON GIN
DRAWING INTO YARN
COTTON NEW ORLEANS
CARDING MILL.
Photos by Gay, Fall River, Mass.
Cotton Production

Bring the weeds into school. Make a list of all the plants and wild flowers which you know.

Every plant has a work to do for itself, in maturing and scattering its seed as it lives from birth to old age. Try to find out how the different plants which you know scatter their seed.

Some plants grow in our locality only when *cultivated* in gardens and fields. Other plants need to be cultivated in all localities.



ENTIRE PLANT.

What cultivated plants do you know? Which are cultivated because useful to man and animals? Which for their beauty?

Plants are cultivated for many purposes. Some are cultivated for their ROOTS *or* TUBERS; *some for their* STALKS *or* STEMS; *some for their* LEAVES; *some for* BUDS *and* BLOSSOMS, *and some for their* FRUIT *or* SEEDS.

Think what part of each of the plants which you know is used for food. Make a list of the plants which you know are raised for their leaves; for their stems—either as an article of food or fiber (the fiber of some plants is used for making cordage and cloths); for their roots or tubers; for bud or blossom; for seed; for fruit. Bring in pictures of the different plants which we eat. Also bring in specimens of those which grow in your neighborhood.

Go to the groceries, fruit-stores, and drugstore and find out what plant products are sold which come from sections having about the same seasons that we have. Which come from warmer countries; which from colder countries.

COTTON.—Here is the picture of a shrubby plant which is cultivated in warm countries for the fluffy fiber which surrounds its seeds. This fiber is called *cotton*. The seed is sown in March or April, and the cotton is gathered from August to December. The flowers vary in color with the different varieties—some being purple, others yellow, others a pinkish-white. As the petals drop off, the seed-vessel, or *bole*, swells to the size of a large apple; it then bursts open, and the cotton is ready for the picking. As the seed-vessels ripen and burst open at different times on the same plant, the season for cotton-picking continues for some weeks. From the picture on the preceding page, tell who the cotton pickers are and how they gather the cotton. The seeds are closely enveloped in the fiber, which is carried from the fields to the *cotton-gin*. Here the fiber is separated from the seeds. (Find out who invented the cotton-gin.) It is then baled and taken to a railroad station or wharf. Describe the scene "Shipping Cotton." From the station or wharf it is sent to factories in our own country and in other countries to be made into all kinds of cotton materials. Describe the pictures of the cotton factory. Bring to school samples of goods made from cotton.

COTTON PLANT.

What plants give us our *spices?*

Spices grow in countries which have hot weather for most of the year.

Bring in different kinds of spices. Find out from which part of the plant the spice is taken.

FRUITS.

Plants have families as people do. They have parents, brothers, sisters, and cousins.

Plants bearing similar fruits are related. Melons, cucumbers, squashes, and pumpkins belong to "Mr. Gourd's" family. Tell in what ways they are alike.

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Make a list of the cousins to the peach. Tell why you think they are related. They belong to the "*Stone Family.*"

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Each fruit is an arrangement for nourishing and protecting the seed until it is fully ripened. Then it is set free through various means and is ready to "set up housekeeping" for itself. Bring in fruits through the year. Find out all you can about the growth of each.

Pineapples grow in warm countries. Most of you have seen and eaten them. Find out where the seed is located.

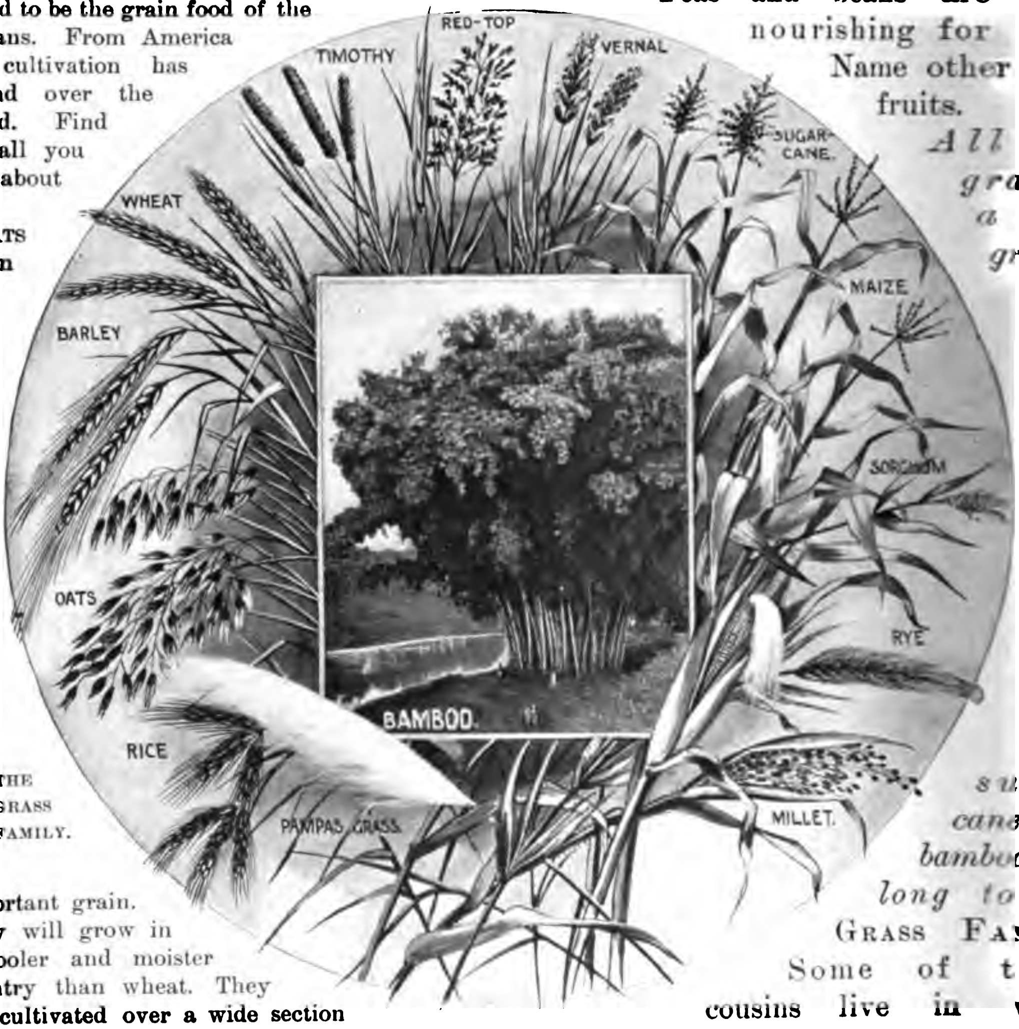
All of the fruits about which we have been studying are **FLESHY FRUITS.** They are so called because they are juicy and have flesh to protect their seeds.

Make a list of the different fleshy fruits in the picture on page 29. Learn all you can about each; when the tree or plant blossoms; how long it takes the fruit to mature; how it is gathered; how stored or shipped for market; its value.

What are the *grains*? Bring in each kind. Tell where you found it. Find out which need most heat and moisture. Which grow in the colder countries? Which will grow only in the warm countries? Which is most largely cultivated in your neighborhood? Bring in the products of the grains.

Wheat is the most valuable of all the grains. It has been cultivated since the earliest period in history. It is cultivated in nearly all temperate countries. *Flour* is made from wheat.

Maize or **Indian Corn** is of great importance as a grain food, especially for animals. When America was discovered maize was found to be the grain food of the Indians. From America its cultivation has spread over the world. Find out all you can about it.



THE GRASS FAMILY.

Oats are an important grain. They will grow in a cooler and moister country than wheat. They are cultivated over a wide section of the temperate parts of the world. In what foods do we eat oats?

Barley will grow in a colder country than any other grain. It was the principal bread-grain of the ancient people. Malt is made from barley.

Rye is the principal bread-grain of the masses of the people in mainland Europe.

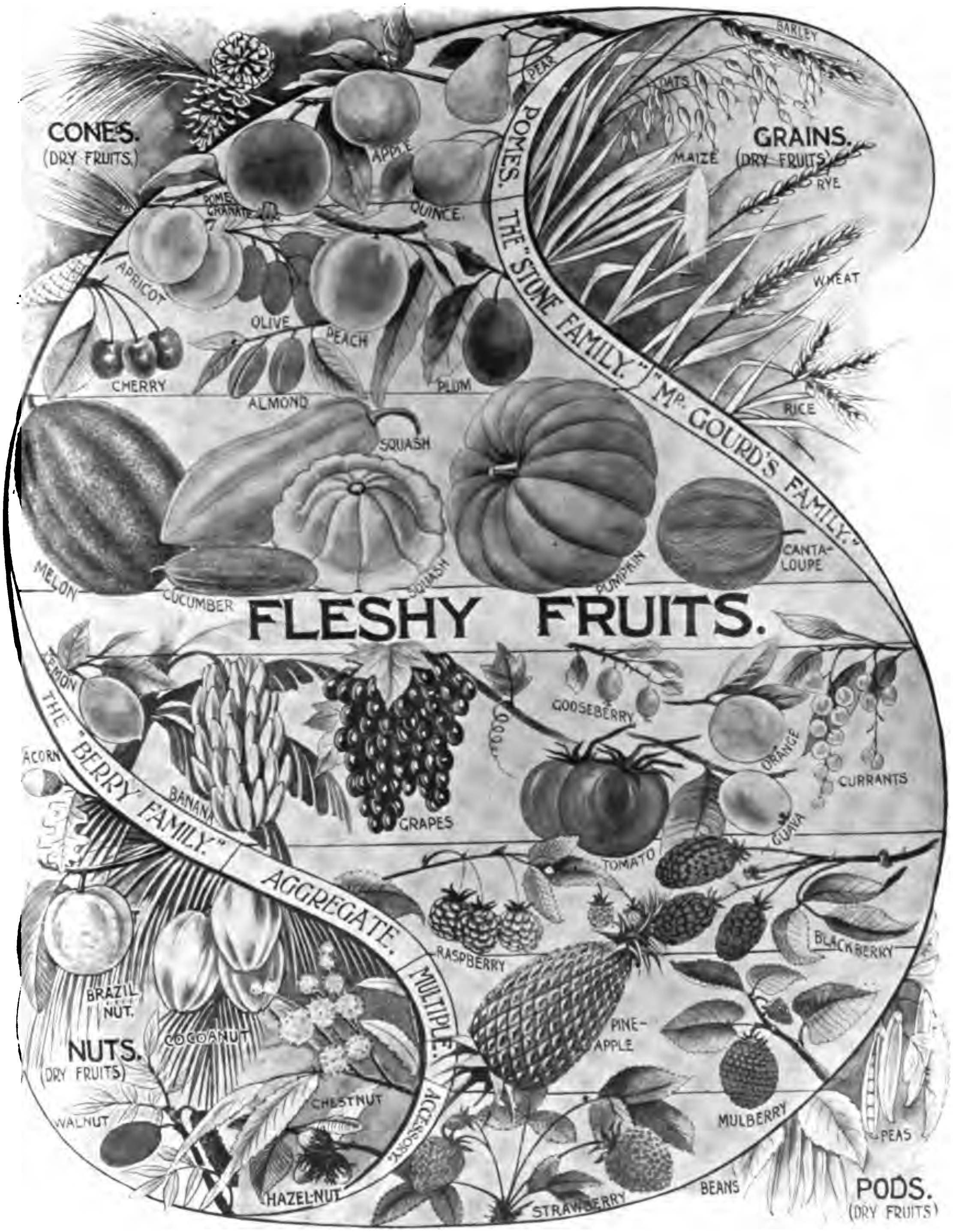
Rice requires a wet soil with a great deal of heat. No other grain furnishes so many peo with food. At least one-third of the human r are dependent upon its cultivation.

The grains, pods, cones, and nuts called DRY FRUITS. *Can you think wh*

Peas and beans are ver nourishing for fo Name other p fruits.

All t grass a n grai th suga cane a bamboo, b long to th GRASS FAMIL Some of the cousins live in war countries, but most of them thriv best in the temperate countries. It i the most useful of plant families. Ca you think why?

Make a list of the members of thi family.


CONES.
(DRY FRUITS.)
PEAR
APPLE
POMEGRANATE
QUINCE
POMES.
BARLEY
OATS
MAIZE
GRAINS.
(DRY FRUITS)
RYE
WHEAT
RICE
APRICOT
OLIVE
PEACH
CHERRY
ALMOND
PLUM
THE "STONE FAMILY."
"MR. GOURD'S FAMILY."
SQUASH
MELON
CUCUMBER
SQUASH
PUMPKIN
CANTALOUPE
FLESHY FRUITS.
LEMON
THE "BERRY" FAMILY."
BANANA
GRAPES
GOOSEBERRY
ORANGE
CURRANTS
GUAVA
TOMATO
ACORN
AGGREGATE.
RASPBERRY
BLACKBERRY
MULTIPLE.
PINEAPPLE
MULBERRY
BRAZIL NUT.
COCOANUT
NUTS.
(DRY FRUITS)
CHESTNUT
ACCESSORY.
WALNUT
HAZEL-NUT
STRAWBERRY
BEANS
PEAS
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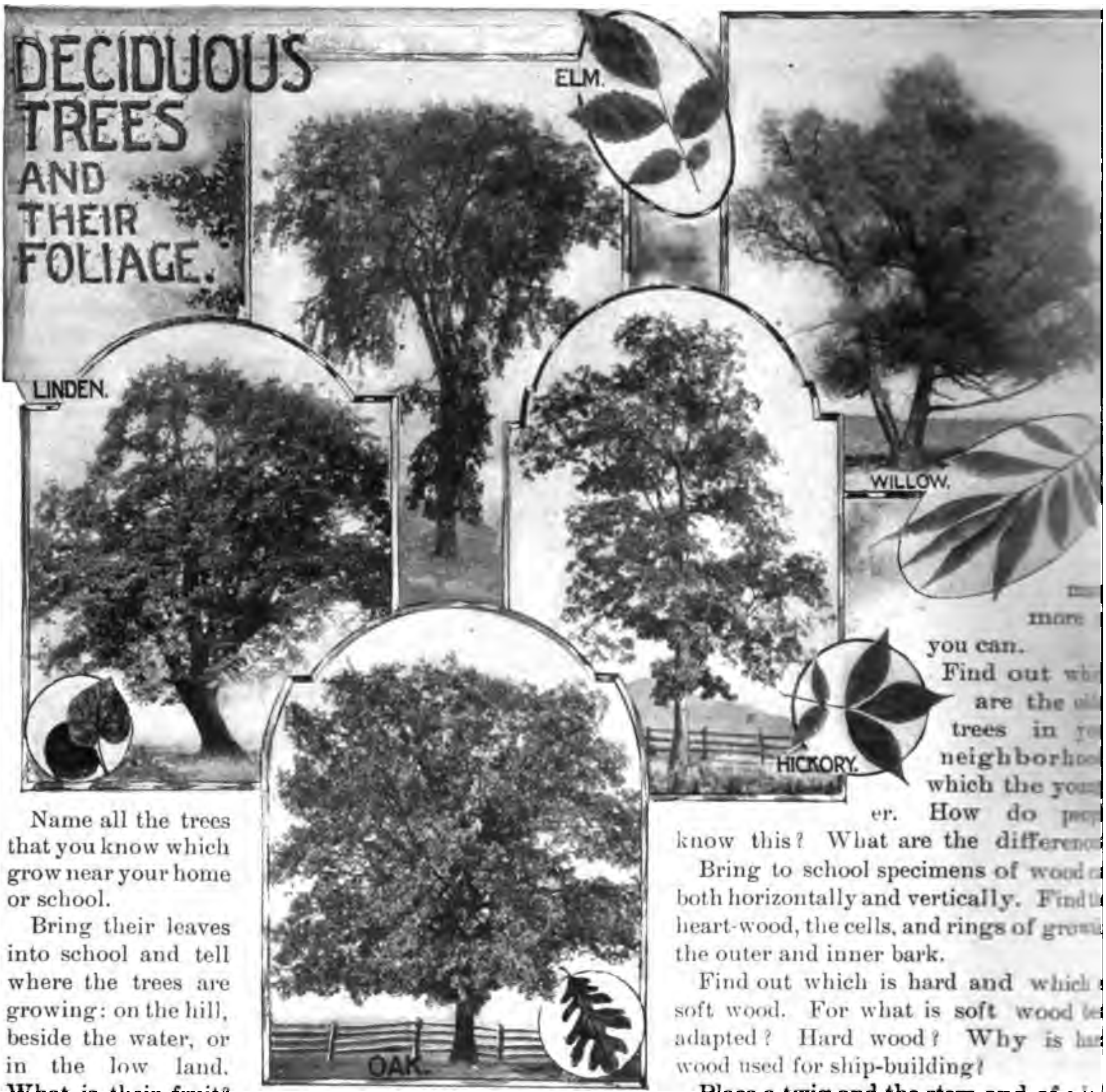
(DRY FRUITS)



Name all the trees that you know which grow near your home or school.

Bring their leaves into school and tell where the trees are growing: on the hill, beside the water, or in the low land. **What is their fruit? Their seed? Bring specimens of fruit and seed to school. Find out how each tree scatters its seed. In what month and season does each blossom? In what month does each mature its fruit?**

All the trees in the picture, and many others, drop their leaves in the fall.

Trees which drop their leaves in the fall are called DECIDUOUS TREES.

Make a list of the deciduous trees in the picture; learn all you can about each. Add to this list as more you can.

Find out wh are the ol trees in yo neighborhoo which the youn er. How do peop know this? What are the differenc

Bring to school specimens of wood c both horizontally and vertically. Find th heart-wood, the cells, and rings of grow the outer and inner bark.

Find out which is hard and which soft wood. For what is soft wood be adapted? Hard wood? Why is har wood used for ship-building?

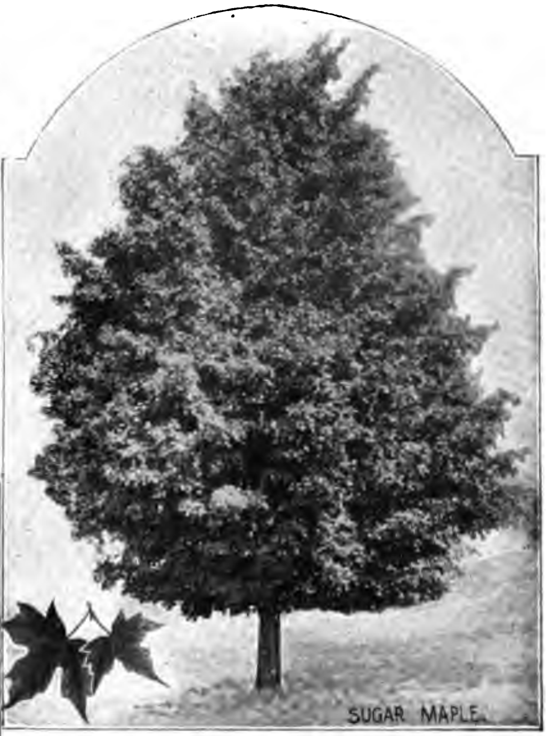
Place a twig and the stem end of a lea in some red ink and leave them there for a tim Observe the effect. From this experiment yo will learn how the sap gets to the growing part o the tree.

Note carefully the shapes of the leaves, th manner of growth on the tree. Note where the branch, if high or low. Find out what kind o roots the trees have.

All foliage is arranged to allow th necessary amount of air and sunlight t reach every part of the tree.

The roots of trees spread out in the ground about the same distance as their branches spread out in the air. The little rootlets are at the ends of the root branches. When the rain falls the foliage acts as an umbrella and carries the water to the outer leaves, where it falls to the ground just over the little rootlets. These rootlets drink it in, and it is carried up through the tree in the sap to nourish every part.

On this page is a picture of the *rock* or *sugar maple* from which *maple-sugar* is made.



Very early in the spring, when our warm, sunny days come, which are followed by cool, freezing nights, the *sugar season* begins

The sugar-maples are tapped, and one or two little spouts are driven into each tree. Under these a bucket is hung. The sap drips or flows through the day. It is gathered in tanks. These tanks are either drawn on sleds to the sugar-house, or they are connected by pipe lines, as in the picture, with the vats in the sugar-house. Here the sap is evaporated or boiled to syrup of delicious flavor. Some of the syrup is boiled down still more into sugar. Have you ever attended a "sugaring party," or "sugared off"? If so, tell about it.

The sugar season lasts but a short time, for as soon as the buds are out the sap becomes bitter. Most of the maple sugar of the world is made in the northern part of the United States, especially in the northeastern part, and in Canada. From these sections it is sent to other sections and countries to be sold.

Find out its price per gallon as syrup or per pound as sugar.

Make a list of all the *nut* trees. Tell when they blossom; in what month their fruit is ripe; how it is set free.

Make a list of all the *fruit* trees which you know or can find out about. Tell in what soil they grow; the kind of fruit they bear.

On the next page is the picture of a *cocoanut-palm grove.*

The *cocoanut palm* grows in the hot regions of our earth. It bears one of the largest nuts in the world.

The nut is round and the shell is very thick. It is filled with the meat of the nut and a quantity of milk. This milk is drunk by the natives of the hot countries. The nut is enveloped in a very thick husk, which makes the fruit seem of great size. It is too large for the smaller animals to store or for the wind to carry. "Jack Frost" does not appear, so the tree depends upon the waves to help dispers seed.

This husk is nearly always three-sided, an tree usually grows beside water. Its s helps the fruit to float away. It is car by the waves to other s where it plants itself, to the work of a mothe

Birches have culiar habits of t own. Try to find what t are. A find out uses of birch. T grow in c er regi than ot decidu trees.

EVERGREE

The tr which h leaves in w ter are EV GREENS.

How do the le of the evergre differ in shape and position fr those of the deciduous trees? C you think of any advantage to the t in winter because of this arrangeme What is the seed of each evergre which you know? How does the se get away from its home?

Bring in twigs of each evergreen which gr in your neighborhood. Sketch them, being car to note their manner of growth. Bring in t fruit, watch its opening and dispersion of se Bring in specimens of wood. Observe, smell, a

ste of the wood. Tell how it differs from the
od of the deciduous trees. Tell how the hem-
ks differ from the firs, the
lars from the firs and hem-
ks, the pines from the
her evergreens. The pines
e the most valuable timber
es in the world. From
ich evergreen does the
ruce-gum come?

CLUSTERS OF COCOANUTS

A COCOA NUT GROVE.

If we were to visit
e colder parts of the
mperate countries we
ould find more evergreens than
eciduous trees. The wood from
me of them is of great value for
ip-building. Evergreens are usually
und growing with birches.

On the low plains bordering the At-
ntic coast, in
th Amer-
a and
urope the
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ines
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ost
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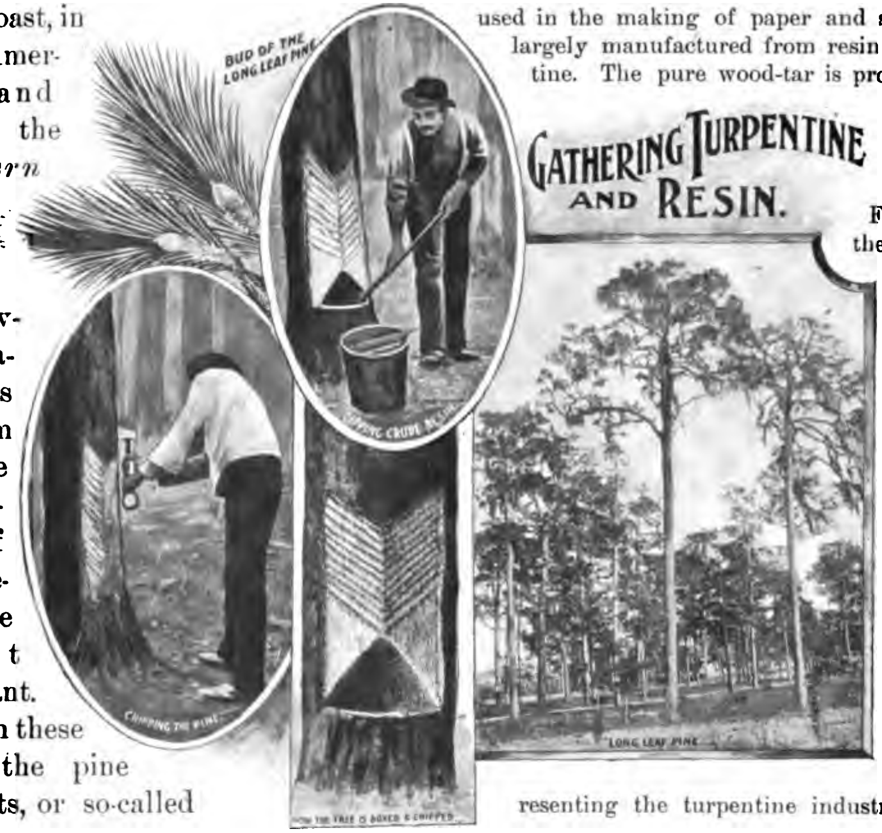
From these
ines the pine
roducts, or so-called “naval stores,” are procured. The naval stores are resin, pitch, tar, turpentine, and rosin.

The pines are boxed and chipped, as in the picture. The resin, or crude turpentine, flows into the receptacle made for it. It is then distilled for the oil or "spirits of turpentine." Rosin, the substance left behind after the distillation, is largely used in the making of paper and soap. Tar is largely manufactured from resin and turpentine. The pure wood-tar is procured, however, by an entirely different process.


GATHERING TURPENTINE AND RESIN.

Find out from the dictionary and other sources the uses of these products. Why are these products called "naval stores"? Learn what you can in regard to their commercial value.

Describe each scene here, representing the turpentine industry.

Bring the weeds into school. Make a list of all the plants and wild flowers which you know.

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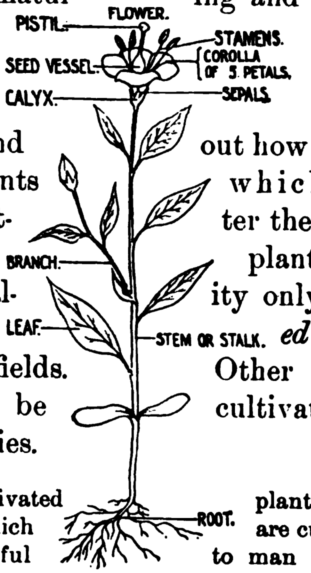

ENTIRE PLANT.

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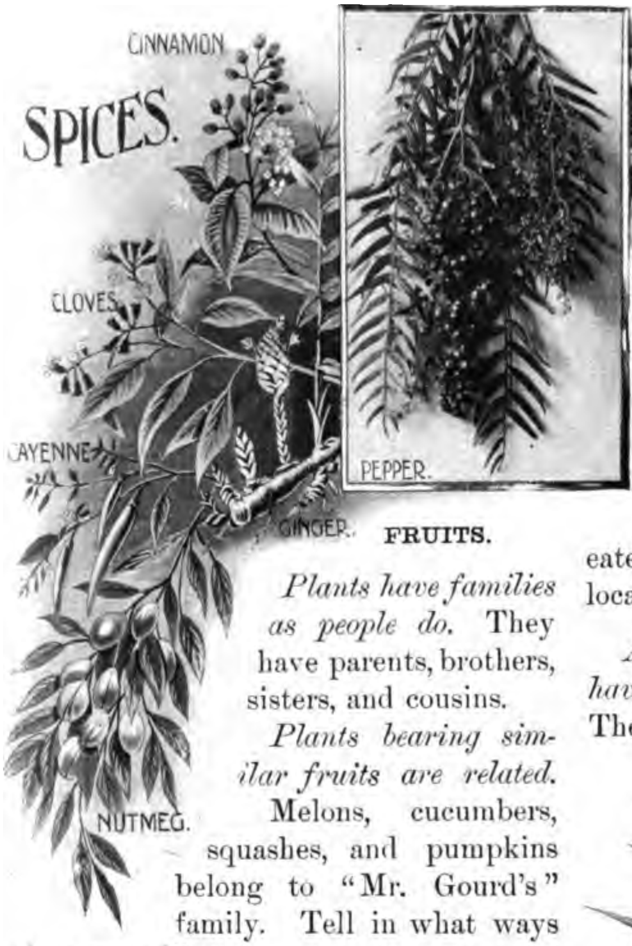
Bring in different kinds of spices. Find out from which part of the plant the spice is taken.



FRUITS.

Plants have families as people do. They have parents, brothers, sisters, and cousins.

Plants bearing similar fruits are related. Melons, cucumbers, squashes, and pumpkins belong to "Mr. Gourd's" family. Tell in what ways they are alike.

Grapes, tomatoes, blueberries, and gooseberries are first cousins, while the banana, lemon, and orange are second cousins to these. Tell how they differ. They belong to the "*Berry Family.*"

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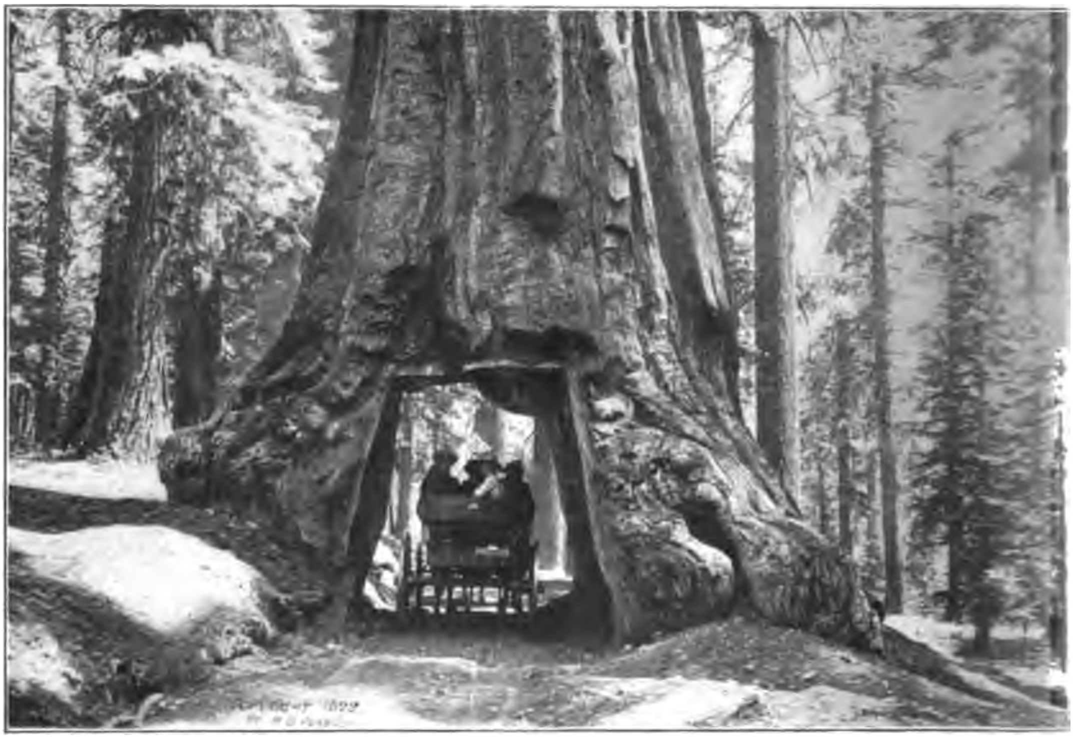
Make a list of the different fleshy fruits in the picture on page 29. Learn all you can about each; when the tree or plant blossoms; how long it takes the fruit to mature; how it is gathered; how stored or shipped for market; its value.

What are the *grains?* Bring in each kind. Tell where you found it. Find out which need most heat and moisture. Which grow in the colder countries? Which will grow only in the warm countries? Which is most largely cultivated in your neighborhood? Bring in the products of the grains.

hardy trees and evergreens, all trees and plants grow smaller and smaller, until they almost disappear. Think how bleak and lonely it must be!

In the State of California, United States, there are groves or forest sections of immense evergreen trees. They are the largest trees in the world, being of great height and size. Many people visit these groves from different sections of the world.



ONE OF THE BIG EVERGREENS IN CALIFORNIA.

Compare the size of the cottage with the diameter of the trees in the foreground of the picture on the preceding page.

Estimate the size of the wagon, in the picture on this page. Estimate the width of cut in the tree. Estimate the size of the tree at the base. Describe the growth of these trees from the two pictures.

Make a list of the different uses of trees. the products of the different trees; the val each product as far as you can learn.

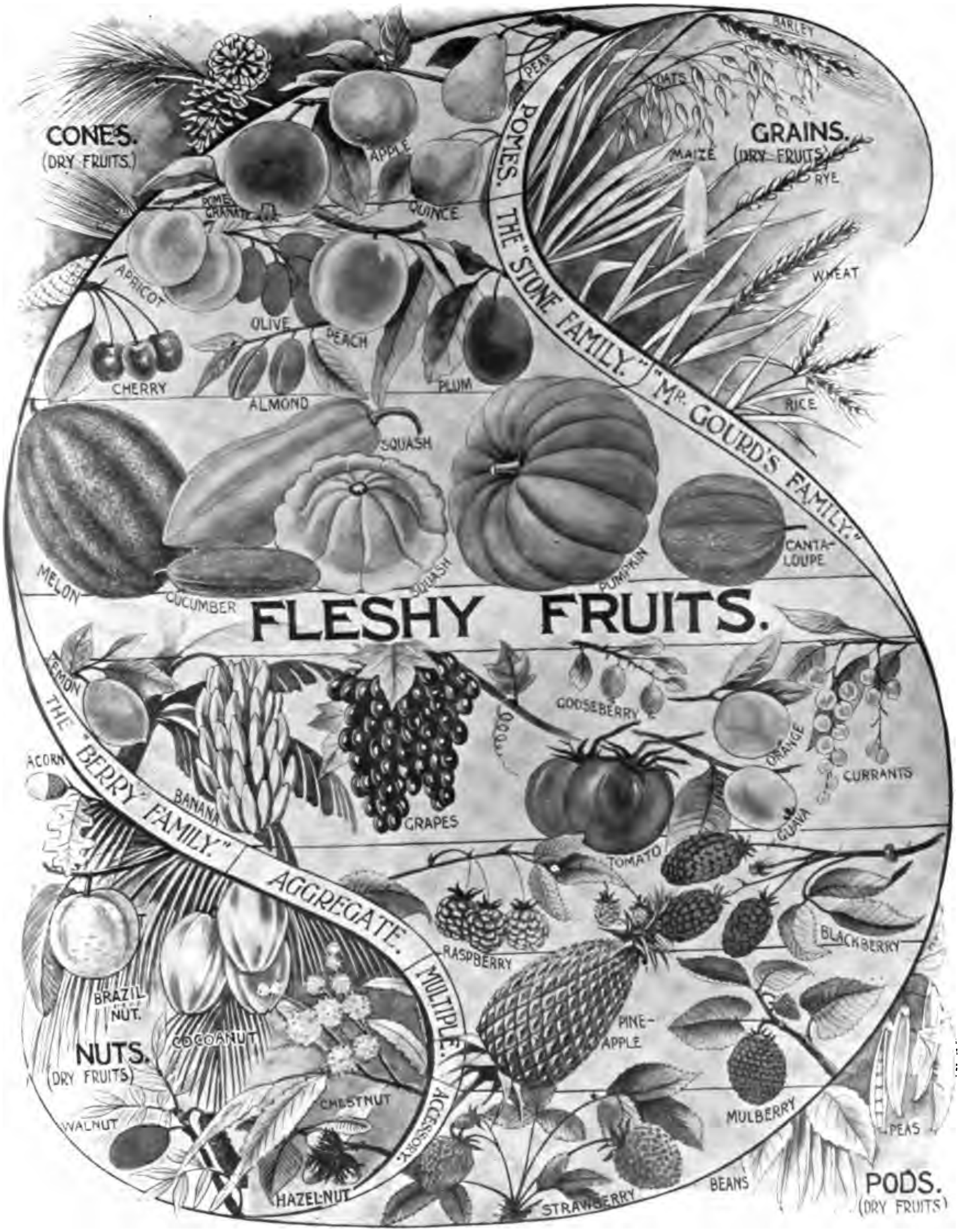
Find pictures in other parts of this book senting forms of plant-life. Tell from their ner of growth whether you think they belo the hot or to the temperate countries. Wh you notice about all tropical vegetation wh different from that of the temperate vegetati

Go to the drugstore and find out what tro plants are valuable for medicines. Try als learn from what country and grand division comes.

Find out what tropical plants are valuable food; from what countries they come; their v to us.

Find out what tropical and what temper woods are especially valuable for making f ture.

Plant seeds of the different deciduous and ev green trees; through observation learn all can of their manner of growth and their needs.


CONES.
(DRY FRUITS.)
GRAINS.
(DRY FRUITS)
BARLEY
OATS
MAIZE
RYE
WHEAT
RICE
PEAR
APPLE
POMEGRANATE
QUINCE
APRICOT
OLIVE
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THE "STONE FAMILY."
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PINE-
APPLE
MULBERRY
ACCESSORY.
BRAZIL
NUT.
COCOANUT
NUTS.
(DRY FRUITS)
CHESTNUT
WALNUT
HAZEL-NUT
STRAWBERRY
BEANS
PEAS
PODS.
(DRY FRUITS)

furnish the people with milk a butter. The reindeer and dogs d them over the snow.

In hot, dry regions the camel f nishes the milk and is the beas burden. Find out how camels a peculiarly fitted for long, hot journ in dry regions.

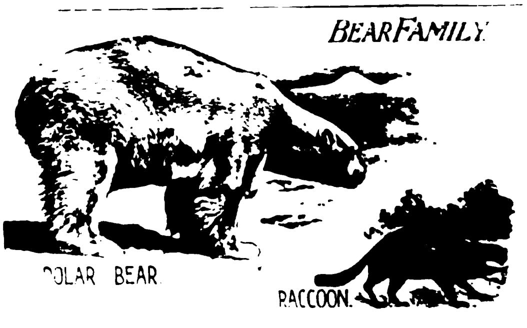
In some countries the camel, falo, and elephant are trained to w

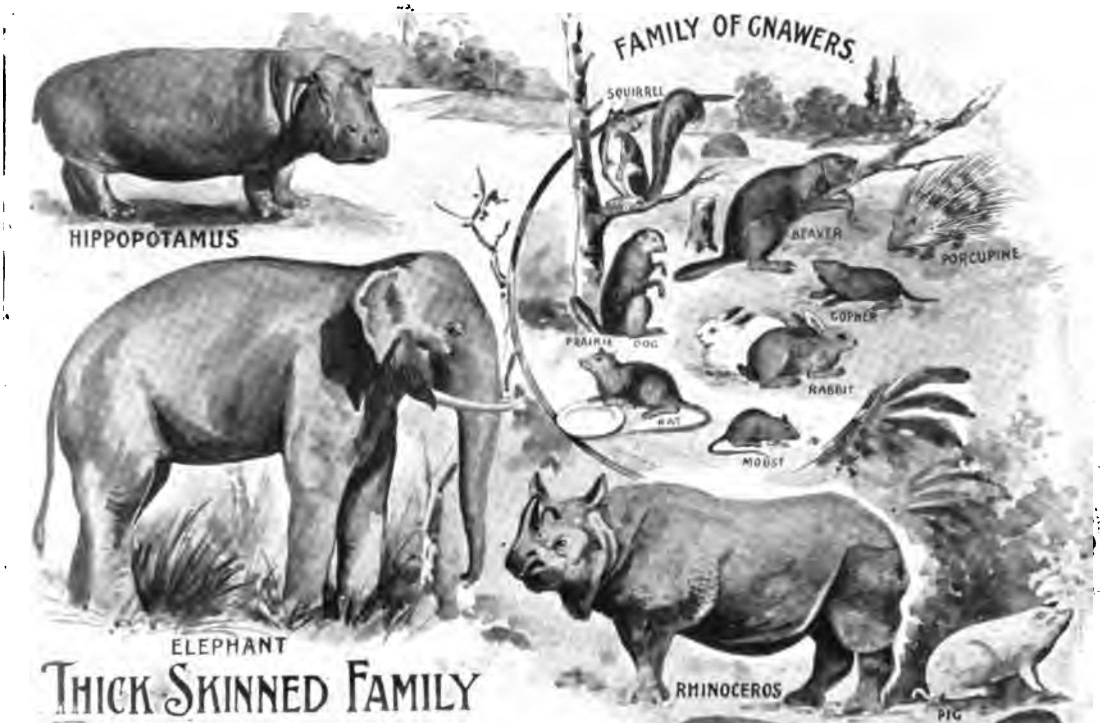
Animal Families.—Animals have habits living, of procuring food, of protect themselves and their young.

Groups of animals resemble each other their habits. They have certain peculiari and features which fit them for their m of living.

Animals belong to GREAT FAMILIES *people and plants do.*

They have fathers, mothers, brothers,





ers, aunts, uncles, and cousins. "Kitty" s cousin to the fierce tiger, the lion, and he leopard. They belong to the *Cat Family*.

"Towser" is ousin to the ox and wolf. They belong to the *Dog Famly*.

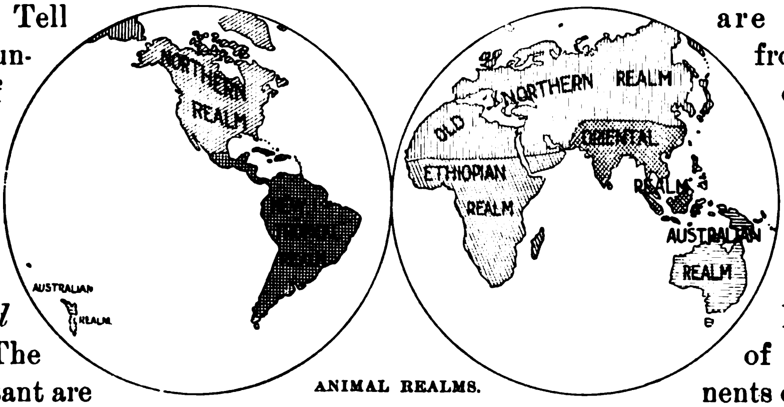
On the receding age pictures of the *Weasel Family* and *Bear Family* are shown. The *Otter* belongs to another family.

These family groups are all members f the same great family branch and have some of the same characteristics. Some of them are very small, others are very large. They all live upon flesh of some kind, and are called "*Flesh-Eaters.*"

Make a list of the members of the Cat Family; the Dog Family; the Weasel Family; the Bear Family. Find out all you can about each. Make a list of the Thick-Skinned animals; of the Gnawers. What is the food of each ?

Make a list of the family groups belonging to the *Cud Chewers*, on page 41. You see this branch is made up of several family groups. They are all "*Grass-Eaters.*" Make a list of the members of the "*Horse Tribe.*"

They are also *grass-eaters.* Tell in what countries some of these animals live. There are few members of the *Pouched Family.* The most important are in the picture. They all have pouches in which they carry their young.



ANIMAL REALMS.

The *Toothless Family* is of little importance. Find out if the turtle, the frog, and the toad have teeth. The turtle belongs to the *Family* of *Reptiles.* The alligator, the lizard, and the snake are also members of this family. The frogs and toads are almost alone—a family by themselves.

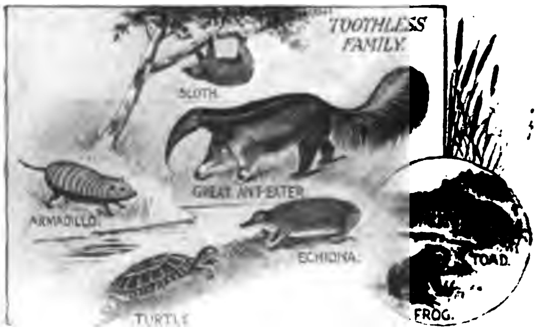
The *Monkey Family* consists of several cousins varying in size from the smaller ones which we see with the organ-grinders to the ape and gorilla, —the latter being larger and stronger than man. (Page 39.)

Bring in pictures of as many of the animals as you can find. Arrange them neatly on charts according to their families. Find out the leading characteristics of each family.

Animals move about from place to place; yet confine themselves within certain limits, in which the weaker ones die and the stronger survive. These limits are spoken of as *Animal Realms.*

What animal realms do you find in the picture? Make a list of the animals in each, according to text on this and the next page.

The animals of the *Australian Realm* are different from all the others. This is probably because there is no way by which the land animals of other continents can get there, neither can the animals of Australia get to other continents. Why?



Northern Realm. Family of Gnawers; Bear

ste of the wood. Tell how it differs from the od of the deciduous trees. Tell how the hemks differ from the firs, the dars from the firs and hemks, the pines from the her evergreens. The pines e the most valuable timber ees in the world. From hich evergreen does the ruce-gum come?

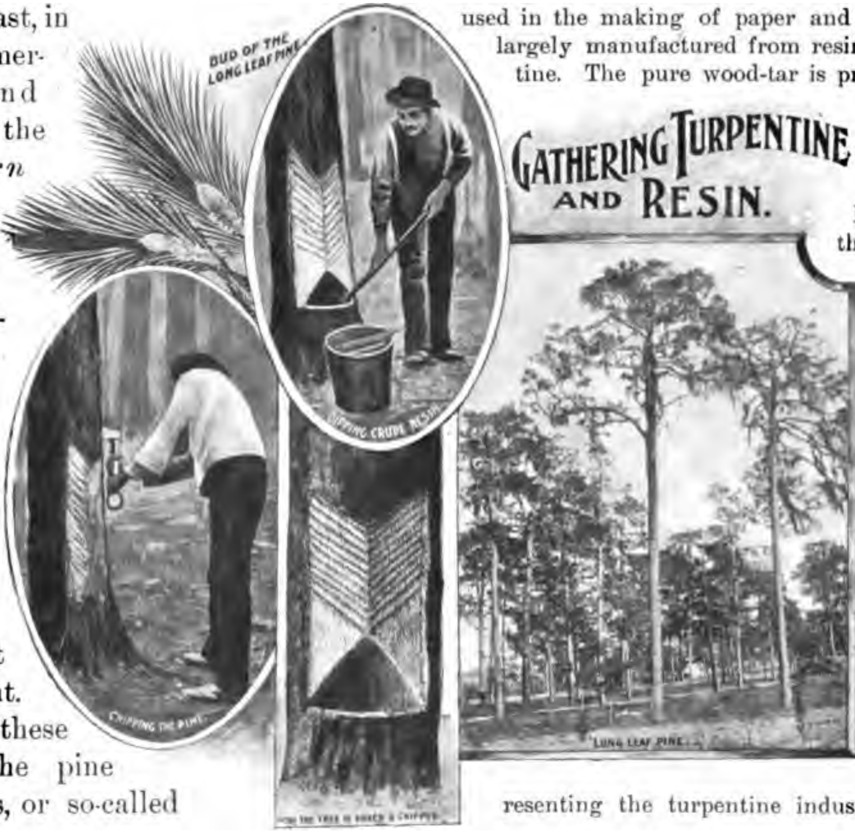
CLUSTERS OF COCOANUTS

A COCOA NUT GROVE.

If we were to visit e colder parts of the mperate countries we ould find more evergreens than eciduous trees. The wood from me of them is of great value for ip-building. Evergreens are usually ound growing with birches.

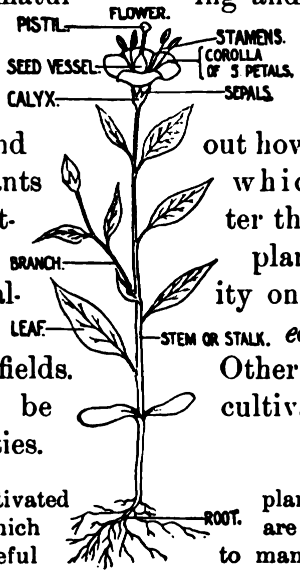
On the low plains bordering the Atntic coast, in oth America and urope the *Southern ines* row. here re several varieties f them—the ong-eaf ine being the nost bundant. From these pines the pine products, or so-called “naval stores,” are procured. The naval stores are resin, pitch, tar, turpentine, and rosin.

The pines are boxed and chipped, as in the picture. The resin, or crude turpentine, flows into the receptacle made for it. It is then distilled for the oil or "spirits of turpentine." Rosin, the substance left behind after the distillation, is largely used in the making of paper and soap. Tar is largely manufactured from resin and turpentine. The pure wood-tar is procured, however, by an entirely different process. Find out from the dictionary and other sources the uses of these products. Why are these products called “naval stores”? Learn what you can in regard to their commercial value. Describe each scene here, representing the turpentine industry.


GATHERING TURPENTINE AND RESIN.

Bring the weeds into school. Make a list of all the plants and wild flowers which you know.

Every plant has a work to do for itself, in maturing and scattering its seed as it lives from birth to old age. Try to find out how the different plants which you know scatter their seed. Some plants grow in our locality only when *cultivated* in gardens and fields. Other plants need to be cultivated in all localities.



ENTIRE PLANT.

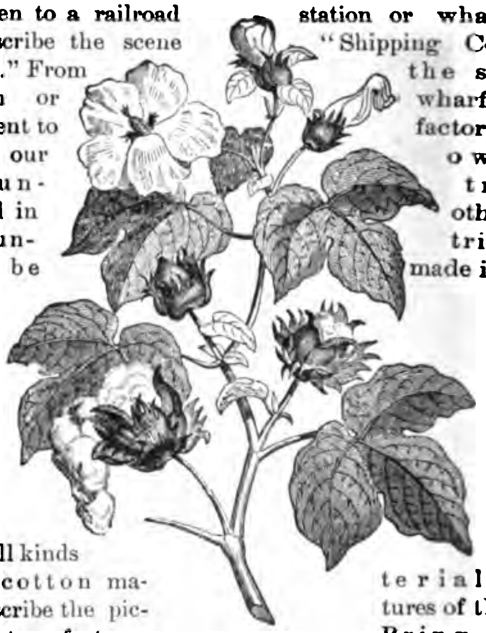
What cultivated plants do you know? Which are cultivated because useful to man and animals? Which for their beauty?

Plants are cultivated for many purposes. Some are cultivated for their ROOTS *or* TUBERS; *some for their* STALKS *or* STEMS; *some for their* LEAVES; *some for* BUDS *and* BLOSSOMS, *and some for their* FRUIT *or* SEEDS.

Think what part of each of the plants which you know is used for food. Make a list of the plants which you know are raised for their leaves; for their stems—either as an article of food or fiber (the fiber of some plants is used for making cordage and cloths); for their roots or tubers; for bud or blossom; for seed; for fruit. Bring in pictures of the different plants which we eat. Also bring in specimens of those which grow in your neighborhood.

Go to the groceries, fruit-stores, and drugstore and find out what plant products are sold which come from sections having about the same seasons that we have. Which come from warmer countries; which from colder countries.

COTTON.—Here is the picture of a shrubby plant which is cultivated in warm countries for the fluffy fiber which surrounds its seeds. This fiber is called *cotton*. The seed is sown in March or April, and the cotton is gathered from August to December. The flowers vary in color with the different varieties—some being purple, others yellow, others a pinkish-white. As the petals drop off, the seed-vessel, or *bole*, swells to the size of a large apple; it then bursts open, and the cotton is ready for the picking. As the seed-vessels ripen and burst open at different times on the same plant, the season for cotton-picking continues for some weeks. From the picture on the preceding page, tell who the cotton pickers are and how they gather the cotton. The seeds are closely enveloped in the fiber, which is carried from the fields to the *cotton-gin*. Here the fiber is separated from the seeds. (Find out who invented the cotton-gin.) It is then baled and taken to a railroad station or wharf. Describe the scene "Shipping Cotton." From the station or wharf it is sent to factories in our own country and in other countries to be made into all kinds of cotton materials. Describe the pictures of the cotton factory. Bring to school samples of goods made from cotton.



COTTON PLANT.

What plants give us our *spices?*

Spices grow in countries which have hot weather for most of the year.

Bring in different kinds of spices. Find out from which part of the plant the spice is taken.

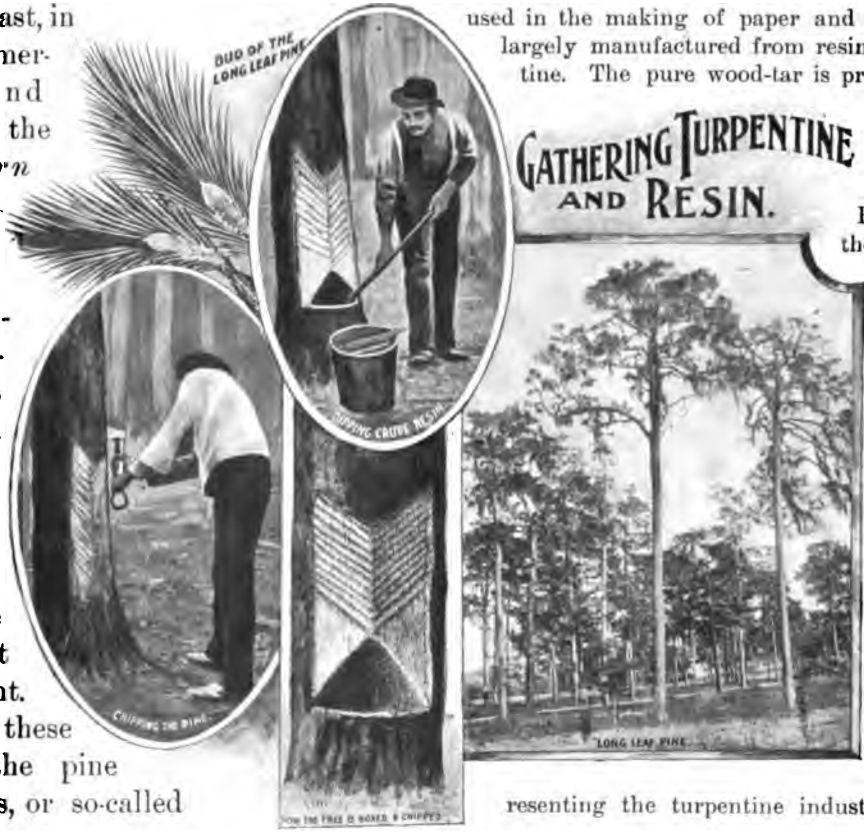
taste of the wood. Tell how it differs from the wood of the deciduous trees. Tell how the hemlocks differ from the firs, the cedars from the firs and hemlocks, the pines from the other evergreens. The pines are the most valuable timber trees in the world. From which evergreen does the spruce-gum come?

CLUSTERS OF COCOANUTS.

A COCOA NUT GROVE.

If we were to visit the colder parts of the temperate countries we should find more evergreens than deciduous trees. The wood from some of them is of great value for ship-building. Evergreens are usually found growing with birches.

On the low plains bordering the Atlantic coast, in both America and Europe the *Southern pines* grow. There are several varieties of them—the long-leaf pine being the most abundant. From these pines the pine products, or so-called "naval stores," are procured. The naval stores are resin, pitch, tar, turpentine, and rosin.



GATHERING TURPENTINE AND RESIN.

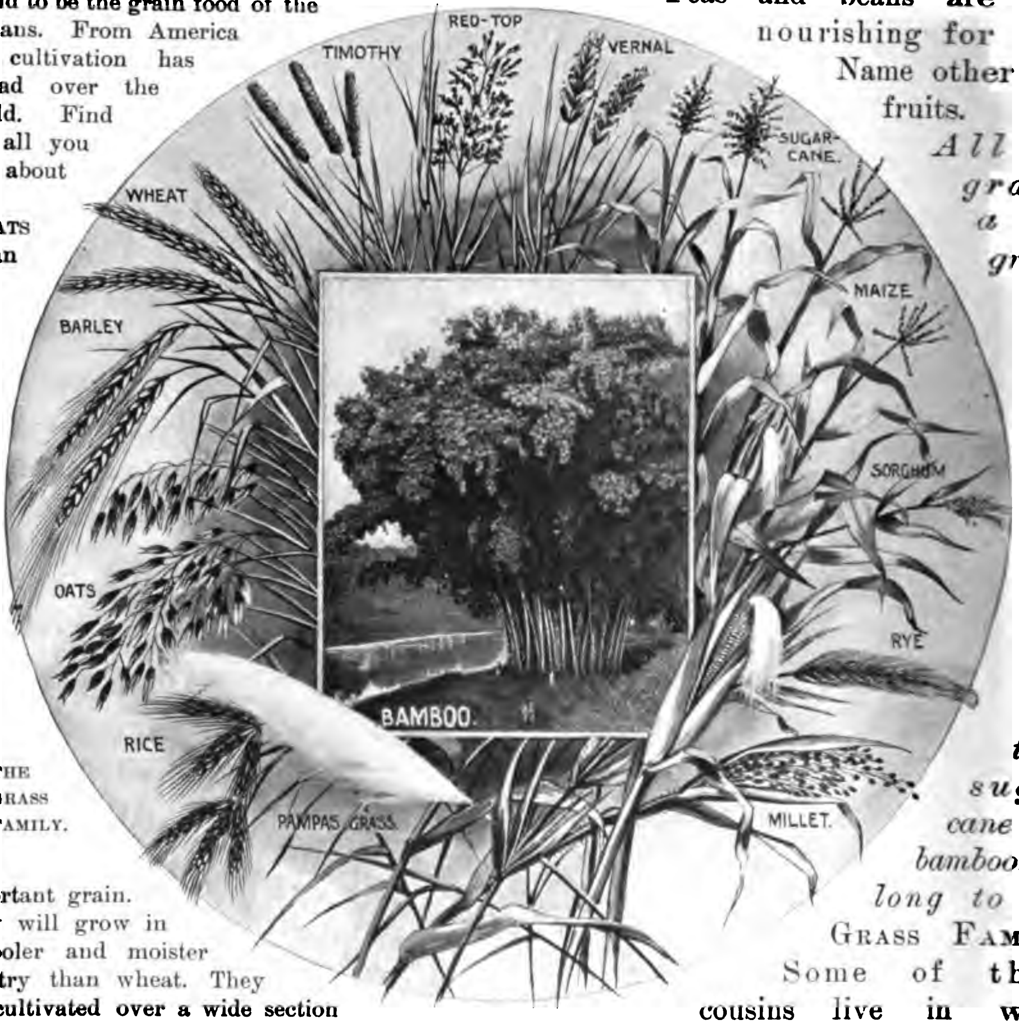
The pines are boxed and chipped, as in the picture. **The resin, or crude turpentine, flows into the receptacle made for it. It is then distilled for the oil or "spirits of turpentine." Rosin, the substance left behind after the distillation, is largely** used in the making of paper and **soap. Tar is** largely manufactured from resin **and turpentine.** The pure wood-tar is **procured, however, by an entirely different process.**

Find out from the **dictionary and other sources the uses of these products. Why are these products called "naval stores"? Learn what you can in regard to their commercial value.**

Describe each scene here, representing the turpentine indus**try.**

WHEAT is the most valuable of all the grains. It has been cultivated since the earliest period in history. It is cultivated in nearly all temperate countries. *Flour* is made from wheat.

MAIZE or **INDIAN CORN** is of great importance as a grain food, especially for animals. When America was discovered maize was found to be the grain food of the Indians. From America its cultivation has spread over the world. Find out all you can about it.



THE GRASS FAMILY.

OATS are an important grain. They will grow in a cooler and moister country than wheat. They are cultivated over a wide section of the temperate parts of the world. In what foods do we eat oats?

BARLEY will grow in a colder country than any other grain. It was the principal bread-grain of the ancient people. Malt is made from barley.

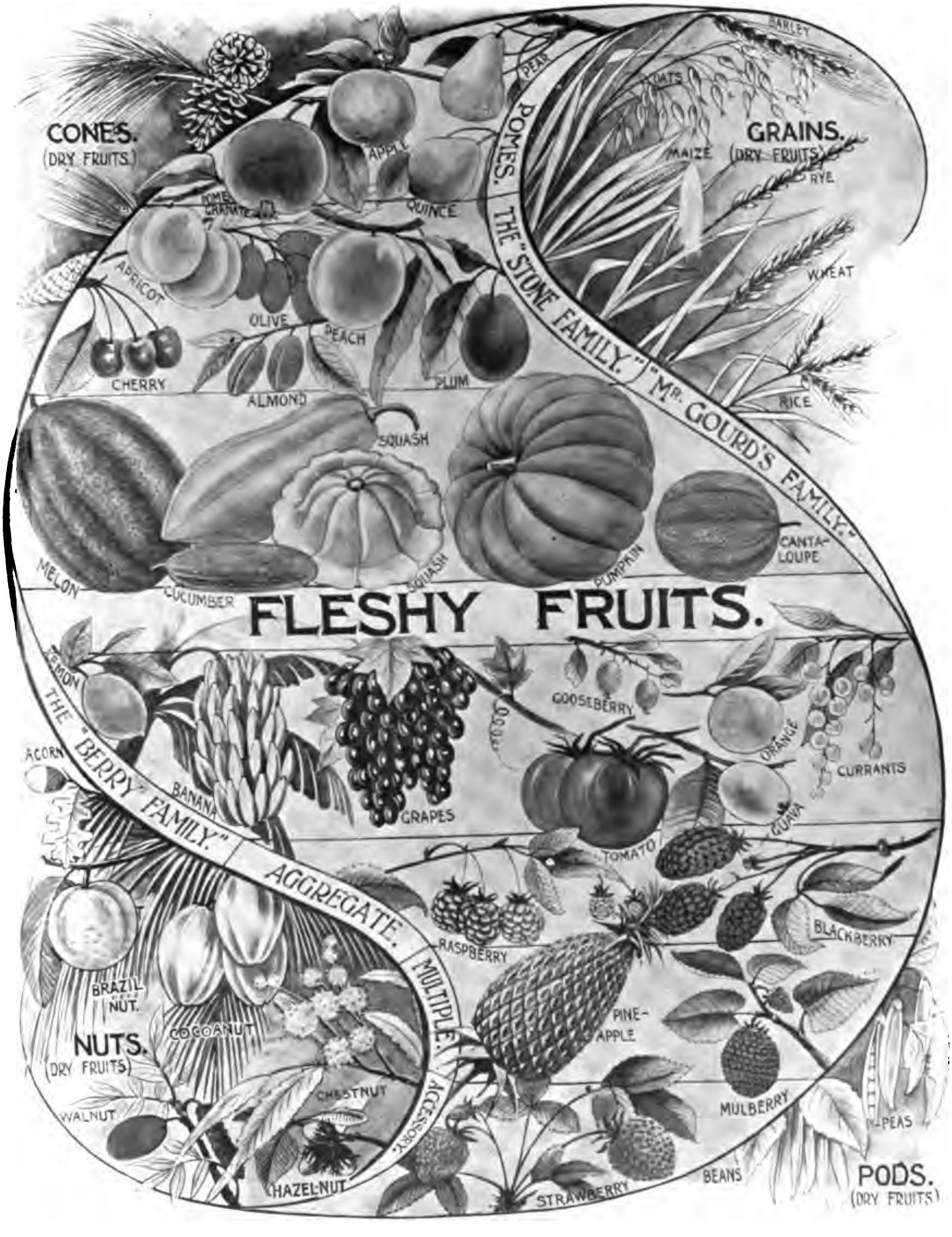
RYE is the principal bread-grain of the masses of the people in mainland Europe.

RICE requires a wet soil with a great deal of heat. No other grain furnishes so many peo with food. At least one-third of the human ra are dependent upon its cultivation.

The grains, pods, cones, and nuts a called DRY FRUITS. *Can you think wh*

Peas and beans are ver nourishing for food. Name other pod fruits. *All the grasses and grains, the sugar-cane and bamboo, belong to the* GRASS FAMILY. Some of these cousins live in warm countries, but most of them thrive best in the temperate countries. It is the most useful of plant families. Can you think why?

Make a list of the members of this family.


CONES.
(DRY FRUITS.)
PEAR
BARLEY
OATS
GRAINS.
(DRY FRUITS)
APPLE
MAIZE
RYE
POMEGRANATE
QUINCE
POMES.
THE "STONE FAMILY."
APRICOT
WHEAT
OLIVE
PEACH
CHERRY
ALMOND
PLUM
RICE
"MR. GOURD'S FAMILY."
SQUASH
MELON
CUCUMBER
SQUASH
PUMPKIN
CANTALOUPE
FLESHY FRUITS.
LEMON
GOOSEBERRY
ORANGE
CURRANTS
ACORN
THE "BERRY" FAMILY."
BANANA
GRAPES
GUAVA
TOMATO
AGGREGATE.
RASPBERRY
BLACKBERRY
BRAZIL NUT.
MULTIPLE.
PINE-APPLE
COCOANUT
NUTS.
(DRY FRUITS)
CHESTNUT
ACCESSORY.
MULBERRY
PEAS
WALNUT
HAZEL-NUT
STRAWBERRY
BEANS
PODS.
(DRY FRUITS)

On this page are pictures of the Industrial Normal Training School at Tuskegee, Alabama.

As you see, it occupies a large area of land. Here the Negro boys and girls are trained to do all kinds of work. Those who graduate from this school go out to teach other Negro boys and girls.

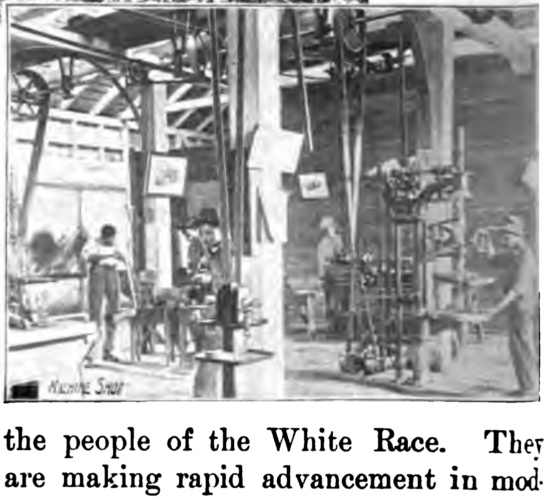
The Negroes in the greater part of Africa are still living without education or good homes. In southern Africa a few schools have been established by people of the White Race for the tribes of Negroes, and they have taken up many of the customs of the Whites.

The greater number of people of the Yellow Race live in China and Japan. Find these countries. The boys of China are educated, but the girls are kept in dense ignorance. This degrades the race. Children must be trained by educat mothers if a race is to make progre

The Chinese are slow to make pr ress in any way. They cling tenaciou to their old customs. Railroads, man factures, and trade have been opene up in China by people of the Whi Race, who have given time and mone for that purpose.

Describe the dress of the Chinese children i the picture on the next page. Describe the scho room. Tell how it differs in appearance from ou Note the position of the pupil who is reciting.

The Japanese are the most advance in education, art and sciences of any branc of the Ye low Race. They ar more advanced i some kind of art tha the people of the White Race. They are making rapid advancement in mod-



ern educational methods, and are educating their boys and girls.

CHILDREN OF THE YELLOW RACE.

Other branches of the Yellow Race live in the cold and in the hot countries. The Indians of the world are of this race. Those of the United States are being educated by the white people. Many schools have been opened for this purpose. As a result, the Indians are less warlike than formerly and are working more.

The Eskimo branch is making advancement under the Whites. Many men and women of America have gone to the cold Northern regions to establish schools and churches, and to teach these people how to live better lives.

The Eskimo children can see no mountains or hills. They see only vast plains which are covered with snow for most of the year. For the rest of the year they see a carpet of green grass and moss, but no trees.

They see no cities, with churches and public buildings, manufacturing establishments, or stores; no streets; nothing which makes the American boys and girls comfortable and happy. For many weeks in a year they have no sunshine, but have to work, play, study, and live by the light of a rag dip. They dress in furs, and live on the fat of the animals which their fathers kill in the cold Northern waters.

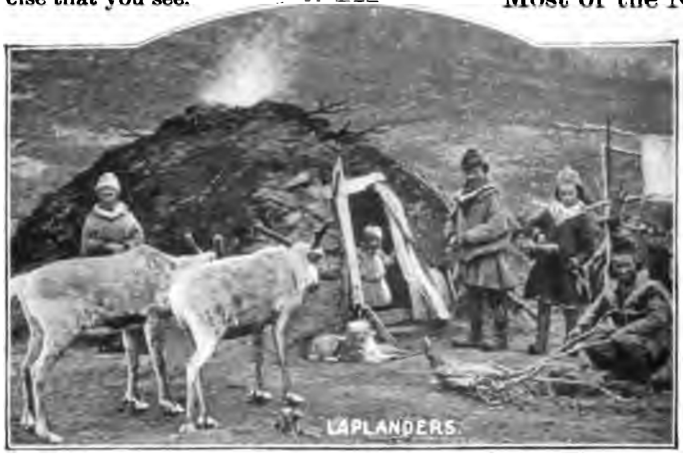
The picture of a schoolhouse on the next page represents the most northern schoolhouse in the world. The teachers are Americans, and the dear old American flag floats over it. The reindeer has been introduced by our government to give these people enough food for the long, cold winters.

A CHINESE SCHOOLROOM.

The Lapps or Laplanders live in northern Europe.

From the picture, describe their homes, their dress, and anything else that you see. Also describe the dress and home of the Indians on the next page. Find the pictures of the homes of the Eskimos in Alaska.

In the pictures of Siberia, Asia, you will find homes similar to those of the Lapps and Eskimos.



RELIGIONS and CHURCHES.—CHURCHES are as necessary for the upright living of mankind as schoolhouses.

The greater portion of the Whites are *Christians.* They are either Protestants or Catholics.

The greater portion of the Yellow Race are *Brahmanists* and *Buddhists;* some are *Mohammedans.* They ha no knowledge of God or of Christ the Christians have.

Most of the Negroes of Afri are *Pagan* some are M hammedan The majori of the Negr in Americ are Christian

As Chris anity ha spread ove the whol world, th people have become less degraded.

All people of the world are less barb ous and live better lives than formerly.

This is seen in their homes, their ma ner of dress, their less cruel modes of warfare.

ESKIMO CHILDREN AND SCHOOLHOUSE, POINT BARROW, N. A.

Bring in pictures of as many of the different nations of Caucasians as you can, also pictures of

homes, schoolhouses, churches, and industries of he different White people. Arrange all neatly in a chart for the schoolroom or on manilla paper to be kept and added to by yourself.

In the same way make a collection of pictures epresenting the life of the different nations of the Mongolians, and of the Negroes. Arrange them eparately in the same way. The pictures need cost little or nothing. Our magazines and papers, railroad guides and advertisements are full of pictures representing the life of different people of the world. Keep your eyes open, hen, and see which members of the class can make the largest collections of such pictures with the least expenditure of money.

A GROUP OF INDIANS

AN INDIAN HOME & VILLAGE

OCCUPATIONS.

Nearly everyone you know is working in some way for a living. Some people work with their hands, others with their brains, and still others with both hands and brains. All kinds of work are honorable and necessary in the world. Even plants and animals have a work to do. There are no idlers in nature.

That which a man or a woman does for a living is his or her OCCUPATION.

Think of what your father is doing for a living. Think of the different people whom you know, and tell what each is doing for a living.

Which occupations belong especially to winter? To summer? To spring? To autumn? Which ones continue through all seasons of the year?

People are living and working in nearly every part of the world.

Some people are working on land, some on water, some among the mountains, some on the plains, and some in the forests.

Some are working where the weather is nearly always icy cold, others where it is never cold, and still others where it is cold, temperate, and hot at different seasons of the year.

A man's occupation is largely determined by the general conditions which surround him.

These general conditions may relate to the physical surroundings—as the surface, soil, heat, moisture, vegetable and animal life, or mineral deposits. They may relate to the social or mental conditions which surround the man, or he may be influenced by his love of adventure and travel.

The physical conditions will influence one to become a farmer, a manufacturer, or a business man of some kind; social conditions and desires usually influence men to take up the professions—and so we have lawyers, doctors, teachers, ministers, etc. The love of adventure will send men to the mining regions, where they may suffer many hardships and secure very little return in money.

OSTRICH FARM, CALIFORNIA COPYRIGHT DETROIT PHOTO CO.

GATHERING PEACHES

Make a list of all the occupations which you know. Bring in pictures representing as many as you can. Arrange them neatly. Make a list of the professions. Learn all you can of each.

FARMING OR AGRICULTURE.—FARMING *is the most important of all occupations.* Upon the farm or agricultural products the great masses of the people depend for food. Name some of these products.

People are farming in every country in the world, except where it is extremely cold for most of the year.

We find farms among the mountains and hills, upon the slopes, and in the lowlands. The best farms are usually upon the hillsides and in the fertile lowlands, bordering streams and bodies of water.

There is work on the farm for every season of the year. There is much more work on a farm during the spring, summer, and autumn than in the winter.

How many of you have visited a farm? Let those who have tell us about it. Take paper and draw the farm. Tell whose land adjoins it. Indicate the highway. Tell to what place the highway leads and what places you would pass in going there.

Locate the house, barns, and other farm buildings. Divide the farm into meadow or grass land, pastures, woodland, plowed fields for grain, corn, potatoes, a garden with beds of vegetables, and orchards. Locate the stream or body of water in the pasture. Tell what are raised in the garden. At what season does the farmer reap the most benefit from the vegetables? Indicate the kind of orchard.

What is the work in the spring?

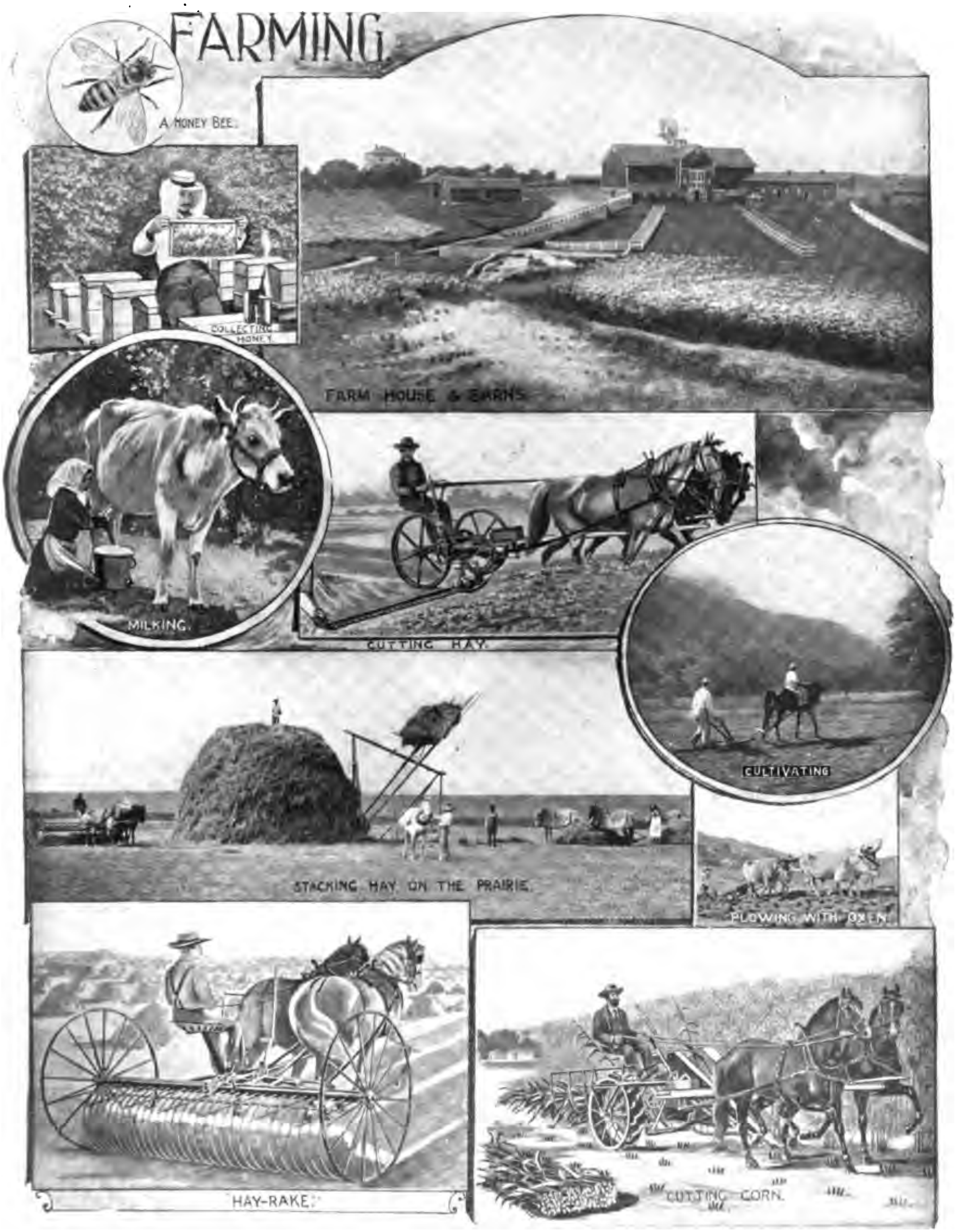
Find out all you can about plowing, preparing the soil, and sowing the seed. What are sown? what planted?

A WESTERN RANCH

Compare the different modes of plowing in the world, from the pictures in other parts of this book.

What is the summer work on a farm?

FARMING


A HONEY BEE.
COLLECTING HONEY.
FARM HOUSE & BARNS.
MILKING.
CUTTING HAY.
CULTIVATING.
STACKING HAY ON THE PRAIRIE.
PLOWING WITH OXEN.
HAY-RAKE.
CUTTING CORN.

Tell all you can about haying—*when* the hay is cut, *how* it is cut, cured, and stored. Also tell how it is sold; its value. It is put up in bales for carrying by train or boat, as it would be too bulky and there would be too much waste if it were moved without baling. The farmers often take it to the nearest village or city in wagonloads.

What is the autumn work?

Tell all you can about the autumn work of harvesting, separating, digging, pulling, gathering, and storing.

We cut or *harvest* grass, grain, corn, sugar-cane, tobacco; *separate* the kernel of grain from the chaff and straw; *dig* the potatoes, *pull* the roots, which we call vegetables, and *gather* the fruits. We *store* these products in different ways. The hay and straw are either stored in barns or stacked; the grains are stored in granaries; the vegetables are stored in cellars, or buried in the ground below freezing.

How are the salable articles prepared for market? Find out at what prices they are sold in the market.

STOCK YARDS, CHICAGO.

CATTLE RAISING IN THE WEST.

COPYRIGHT DETROIT PHOTO CO.

Compare the farming scenes in other parts this book with those of our own, page 51.

Some farmers keep many cows, fr whose milk butter and cheese are ma This is called a *Dairy*. The occup tion is *Dairying*.

Butter, milk, and cheese are s How are they sold? Ab how much are they wor What are other cattle pr ucts? (See page 37.)

In some lo calities larg droves of ca tle are raise for their *catt products*.

Many o these catt are taken t large citie where the are slaught and packi houses. He they are co verted in beef and oth products, and packed for the markets the world. The hides are sent to tannery to be made into leather. Th leather is made into boots and shoes.

On the next page are pictures of the inside of shoe-shop in one of the largest shoe-manufactur cities in the world.

Sheep-raising is also largely carri on by farmers in some localities. Som kinds of sheep are raised especially f their wool, other kinds for their mea

When the warm days of spring come the shee

re too warm, with their heavy winter clothing. he men who care for them shear off their heavy eeces. The wool is then sold by the pound, to be ›nt to the factories to be cleansed, dyed, and spun ıto yarn. This yarn is of many different qualies. The yarn is then woven into all inds of woolen materials.

What is the meat of a sheep alled? What is its value er pound?

Many farmers of he United States and Europe are engaged a sheep-raising, but Australia is espeially noted for this adustry. Describe he scenes on page 56.

Some farmers are ngaged in *bee-keepng*, and send honey o the market, to ell.

About how much is oney worth per pound? f you know anything of oney-bees, tell us about hem and their work. Tell ow the honey is gathered.

In some sections e producing of male sugar for use and r market largely ngages the farmer r a short time in e spring. (See page 31.) Cane and beet ıgar are produced in other sections.

Most farmers raise more of every roduct than can be used on the farm. hey send or carry the products which ey do not need to the nearest village city. Here they sell them for money, or exchange them for such articles as they do not raise. These farm products are sold in the markets of the village or city, or they are shipped by cars or steamers to other cities or sections of country. All of these villages and cities are *trade-centers*.

A SHOE FACTORY. HAVERHILL, MASS.

In earlier times the farmers of temperate countries did nearly all of the farm-work with their hands, using only the simplest implements. The farmers of our country now use many kinds of agricultural machines and implements. This makes their work much easier besides saving them much time.

The farmers of Asia, Africa, and the greater portions of Europe and of South America use but little machinery.

Make a list of all the products of a farm; of what the farmer may have for sale; of what he must buy. Make a list of agricultural machines and implements.

Visit some farm. Tell how you went, and what you saw from the time you left home until you returned. Perhaps your school or class can take an excursion to some farm.

ONE OF THE LARGEST MANUFACTURING PLANTS IN UNITED STATES.

This is a picture of the works of the Deering Manufacturing Company, Chicago, U. S. A. Here all kinds of agricultural implements are made. Several thousand men are employed. Describe the picture.

MANUFACTURING. — MANUFACTURING *is next to farming in importance among the occupations.*

By MANUFACTURING *we mean the making of something by hand or by machinery.*

Farmers depend upon manufacturing for their farm implements and for many other things.

The people of this country once made nearly everything by hand. They now use machinery to do most of the work which was formerly done by hand.

The power which drives the machinery for manufacturing is either water, steam, or electricity.

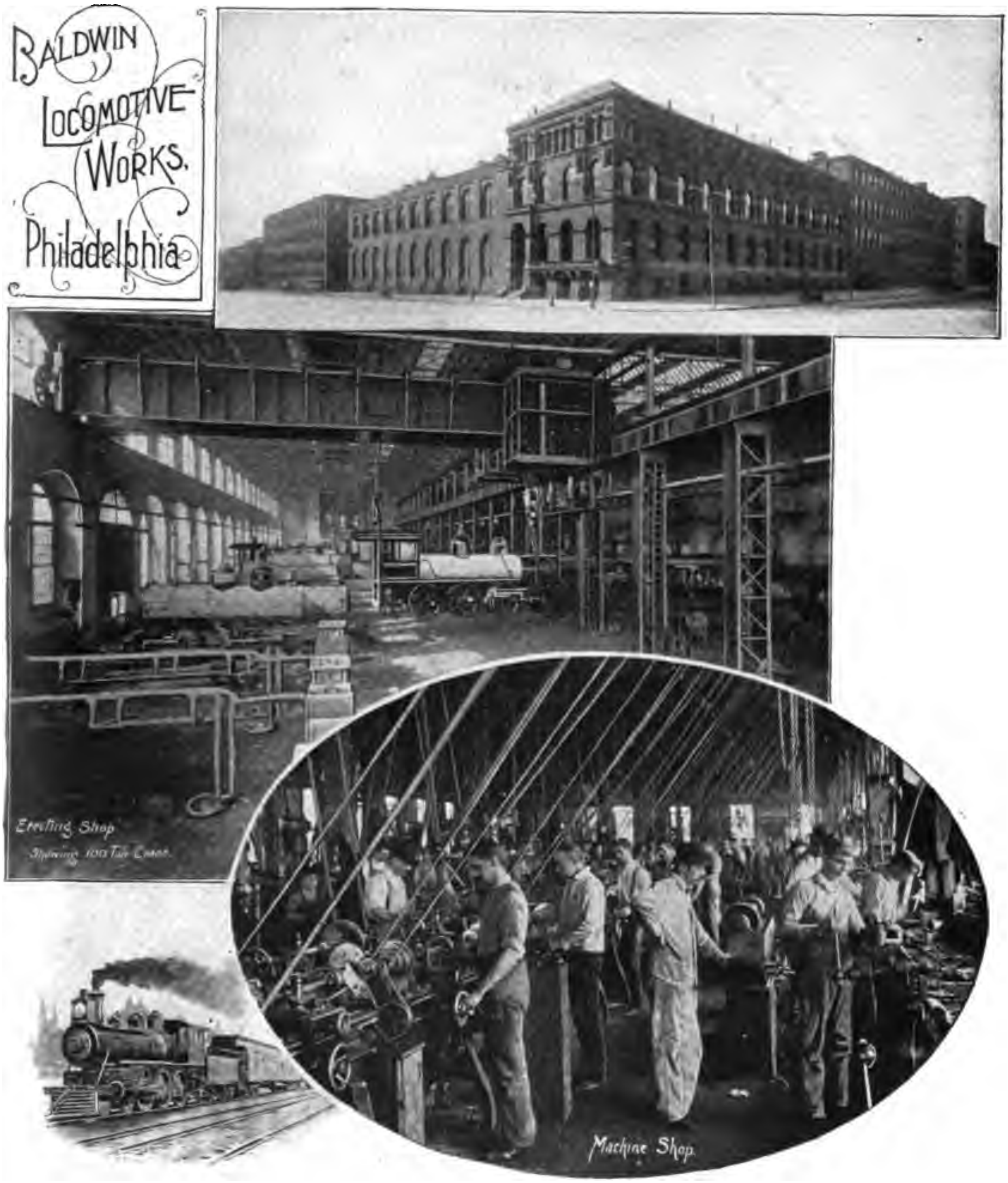
HOME OF THE IRON INDUSTRY
ENGLAND.

In many countries of the world most of the manufacturing is still done by water- or foot-power.

There is no manufacturing in the cold countries except the making by hand of the boats and rude implements used in procuring animals for food.

There are few manufactories in the hot countries. The manufactories that have been established there are owned and directed by the white men of temperate countries.

In temperate countries there are manufactories of all kinds.



These works occupy sixteen acres of land, and employ over seven thousand men. About fifteen thousand locomotives have been constructed here. The greater number are used on railroads in the United States, the smaller number are in use in other sections of the world. Describe the different views represented here.

Name all of the different articles of which you can think that are manufactured. Think of the thousands of people employed in making these articles and of the great amount of money used in paying for them. The farmer feeds all of these people. Visit manufacturing industries and learn all you can in regard to their work.

The material from which articles are made is called RAW-MATERIAL. Wool is the raw-material, woolen yarn or cloth the manufactured product. Iron ore is the raw-material of all iron and steel goods. Silver ore is the raw-material of all silver goods; cotton fiber of all cotton goods. Name the raw materials of as many other manufactures as you can; also the manufactured products.

Most large manufacturing industries are near the sea or upon some stream o body of water. Can you think of reason for this?

All manufacturing plants should in easy communication with the c and iron districts. Iron is needed for t machinery, and coal is needed to drive

By manufacturing *plant* we mean all of the buildings, land, and facilities for transportation occupied or owned by one industry.

All great manufacturing industries contribute to the commercial life of the world by furnishing great quantities o material for sale and transportation They also locate and establish the grea ***industrial cities*** of the world. Find ou how. Where are manufacturing towns or cities usually located?

Mining and Quarrying.—Mining *is an important industry.* It is the digging of minerals from *mines* in the earth. Men thus engaged are called *miners.* They usually work in mountainous sections, because minerals are more often found there. Some minerals, especially coal, are found in the lowlands.

Make a list of the minerals which are mined in the world. What ones do you know at sight? Which are most valuable? Find out what articles are made from the various minerals, and something of their value. Describe the different scenes on this page. What is a smelter? How does the mining town differ from your town or city?

The mines of North and South America, Europe, and South Africa are extensively worked; those of Asia and the islands are little worked. The people of the White Race have developed the mines, as they have every important industry.

A Silver Mine.

A Rocky Mountain Water Carrier

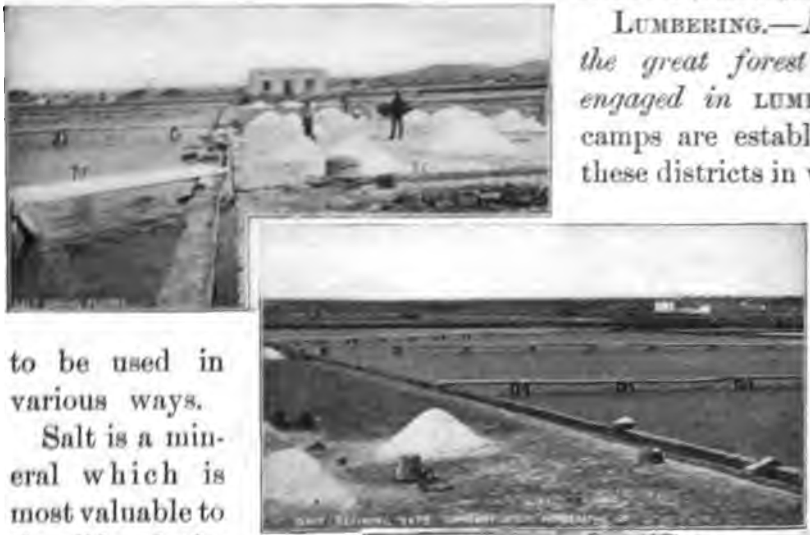
Silver Bullion.

MINING

The Smelter.

A Silver Mining Town.

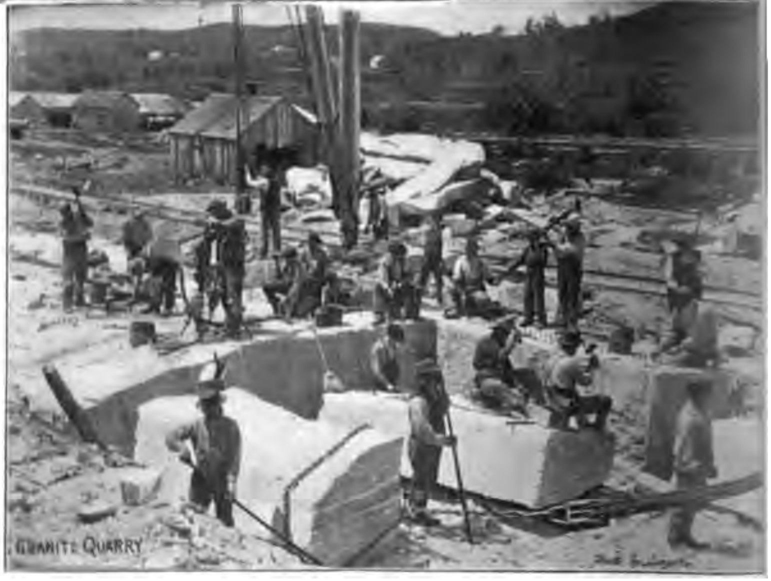
The minerals are transported by cars or boats to great trade-centers, where they are sent to the different industries to be used in various ways.



Salt is a mineral which is most valuable to the life of the world. It is found in great beds or in the bottom of shallow lakes near the sea. It is dug out, cleansed, and the water evaporated. Then it is refined for use. All animals and mankind seem to need it to season their food. Describe the pictures of the saltworks.

QUARRYING.—*Cutting stone from the earth is called* QUARRYING. The men so engaged are QUARRYMEN OR STONE-CUTTERS. *Quarrymen not only take the stone from the* QUARRY, *but they cut and shape it for use.*

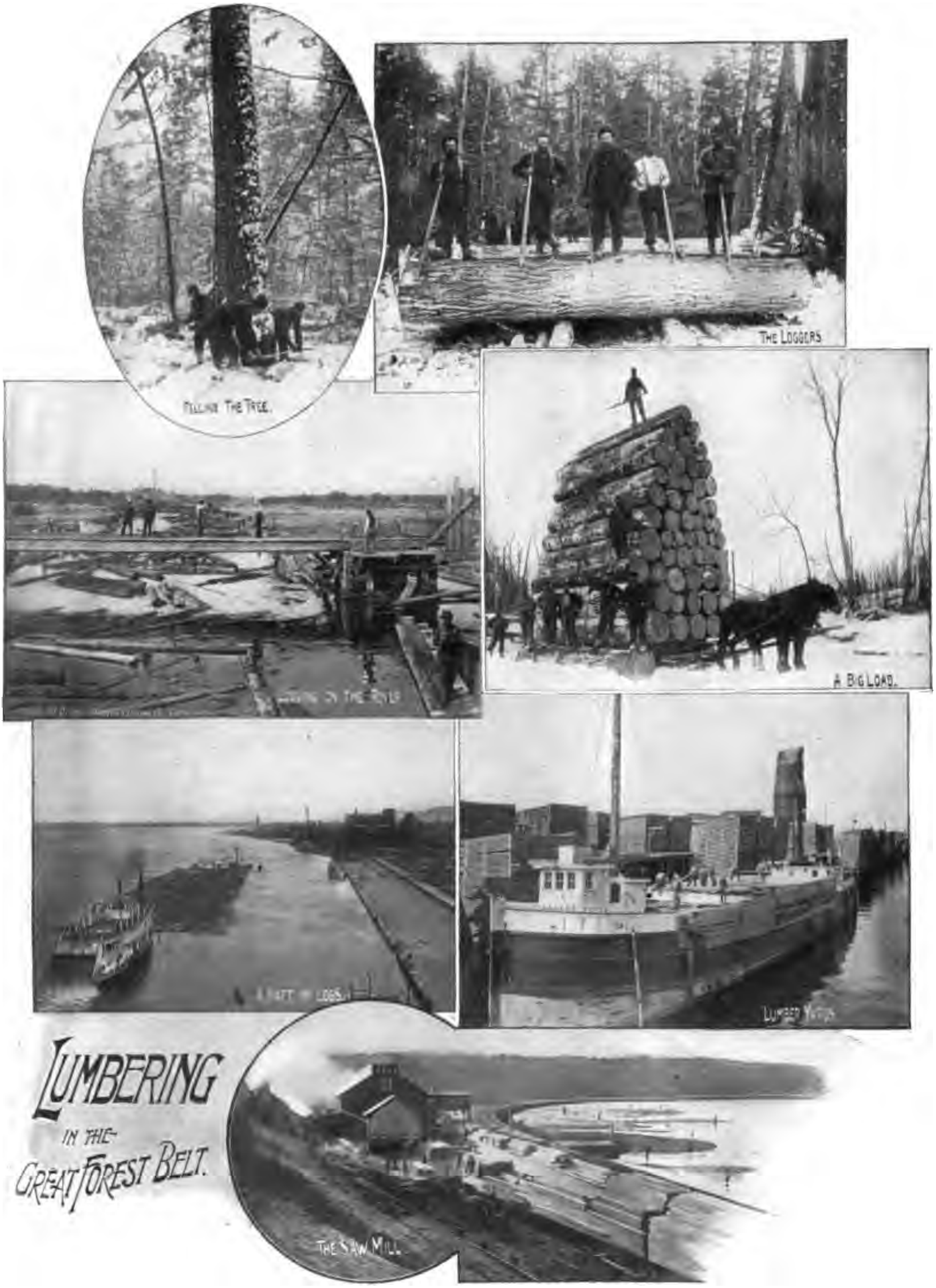
Marble, sandstone, granite, and limestone are *quarried.*



Visit a *quarry* or marble works and learn you can about them. Tell where you have se the different kinds of stone used. Find out wh particular qualities make each stone of value. De scribe the granite quarry represented on this pag

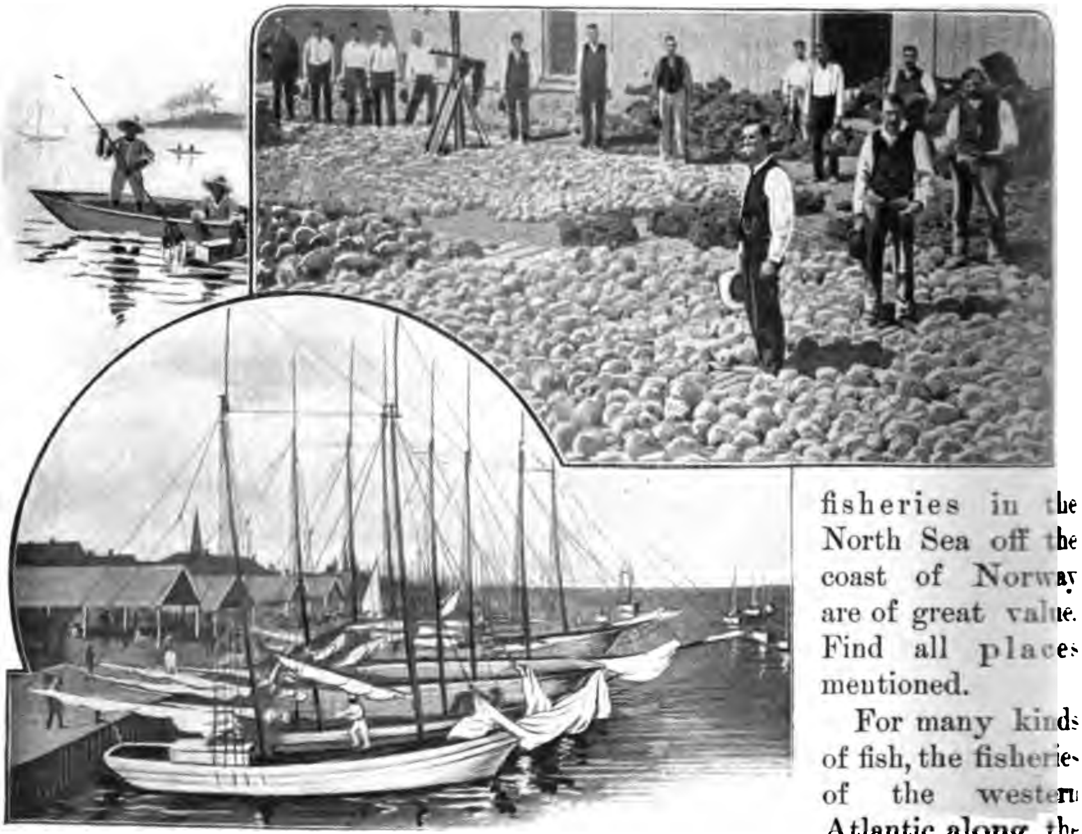
LUMBERING.—*Men who live in or nea the great forest districts are usual engaged in* LUMBERING. Great lumb camps are established in the midst these districts in winter. Men cut dow the trees and cut the up into logs. The are then transporte to the river. In th spring, after the ic is gone, they ar floated down th stream to the sa mills. Here they are converted int *lumber.* The best logs are seasoned be used for telegraph and telephon poles.

Many of the smaller trees are now c


FELLING THE TREE.
THE LOGGERS
[illegible] ON THE RIVER
A BIG LOAD.
A RAFT OF LOGS.
LUMBER YARDS
THE SAW MILL.

LUMBERING IN THE GREAT FOREST BELT.

down and floated down the rivers to *pulp-mills*, where they are made into *pulp*. This pulp is made into paper. Most of the paper upon which our newspapers are printed is made from *wood-pulp*.



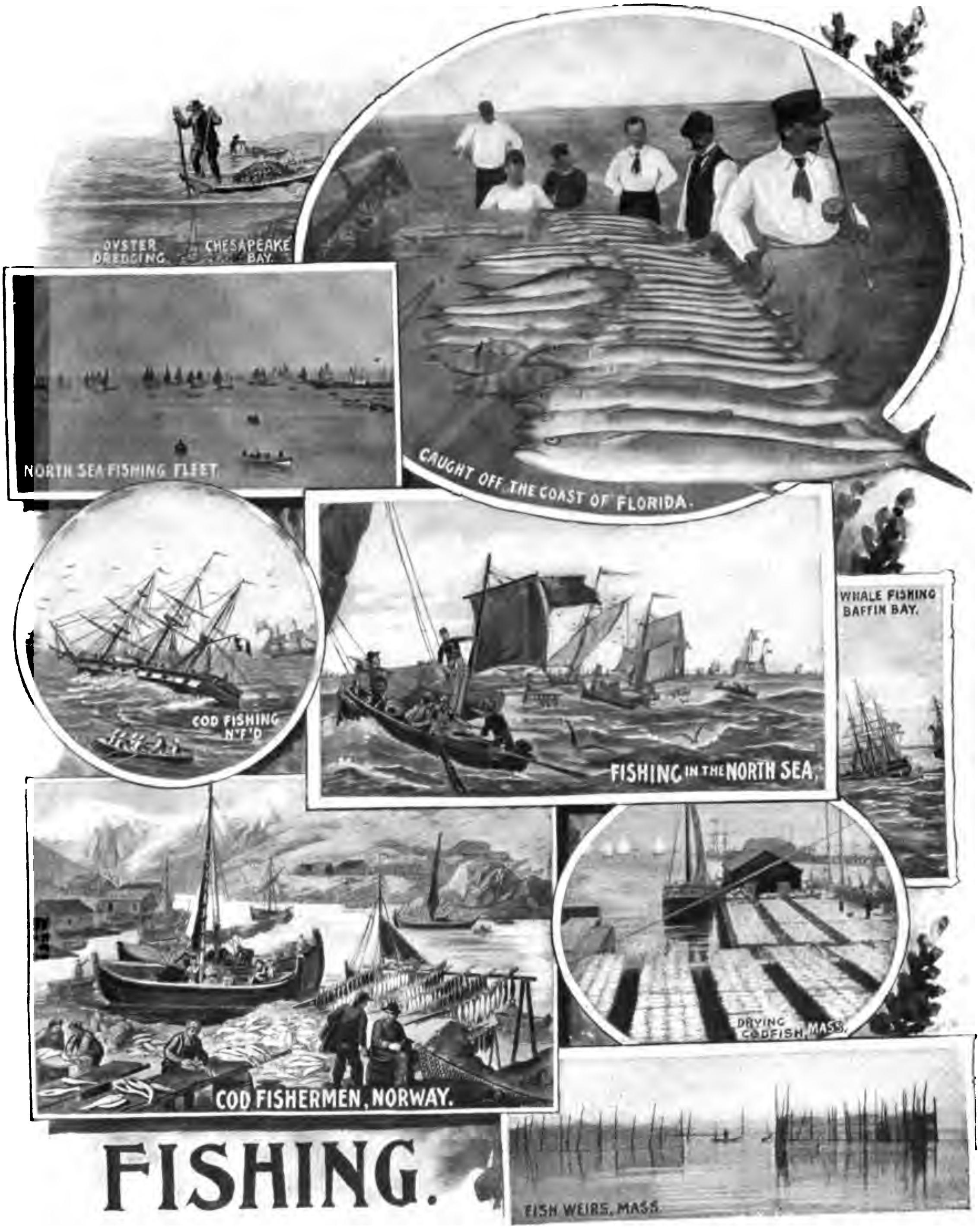
SPONGE-FISHING AND CURING, ATLANTIC COAST.

Make a list of the trees which are cut for lumber. Find out what qualities are needed in telegraph poles. Describe each of the scenes on the preceding page.

FISHING.—*Men who live near or upon the sea are engaged in* FISHING. They catch, cure, and pack fish for market.

The best fish for food, and the largest numbers, are caught in the waters of the cooler temperate belts. Off the coast of the Island of Newfoundland and off southwestern Alaska are great codfisheries. The Newfoundland "cod-fishing grounds" are the most valuable in the world. The cod and herring fisheries in the North Sea off the coast of Norway are of great value. Find all places mentioned.

For many kinds of fish, the fisheries of the western Atlantic along the northeastern coast of the United States are the most valuable in the world. The principal fish are cod, mackerel, halibut, haddock, and menhaden. The menhaden and cod are valuable for oil. *Gloucester*, on the New England coast, is the principal fishing center. The *oyster "fisheries"* are of very great value. They extend south from the New England coast, the most valuable being those of the Chesapeake Bay.


OYSTER DREDGING, CHESAPEAKE BAY.
CAUGHT OFF THE COAST OF FLORIDA.
NORTH SEA FISHING FLEET.
COD FISHING N'F'D
FISHING IN THE NORTH SEA.
WHALE FISHING BAFFIN BAY.
COD FISHERMEN, NORWAY.
DRYING CODFISH, MASS.
FISH WEIRS, MASS.

FISHING.

The Pacific coast is especially noted for its salmon fisheries. There are also valuable fisheries off the coast of northern Japan.

Describe the different fishing scenes on the preceding page. Learn all you can about fishing, and tell about it. Name all the fish which you know.

The *sponge fisheries* of the Mediterranean Sea are the most valuable in the world. Those of the Bahama Isles are of considerable value, but the sponges are not of as fine quality as those of the Mediterranean.

Sponges of commerce are the skeletons of animals which have no organs like other animals.

A HUNTERS' CAMP, CANADA.

When first pulled from the sea bottom, the flesh, a mass of gluey substance, surrounds the skeleton. They are thrown into vats containing a solution which destroys the flesh. They are then cleansed and dried for the market. Find out all you can about the growth and food of sponges. Also in what ways they are procured from the deep sea. Find out something in regard to their value.

The picture, on page 60, represents the sponge fisheries of the Bahamas. Describe the pictures.

Bring in pictures of fishing. Arrange neat on cardboard.

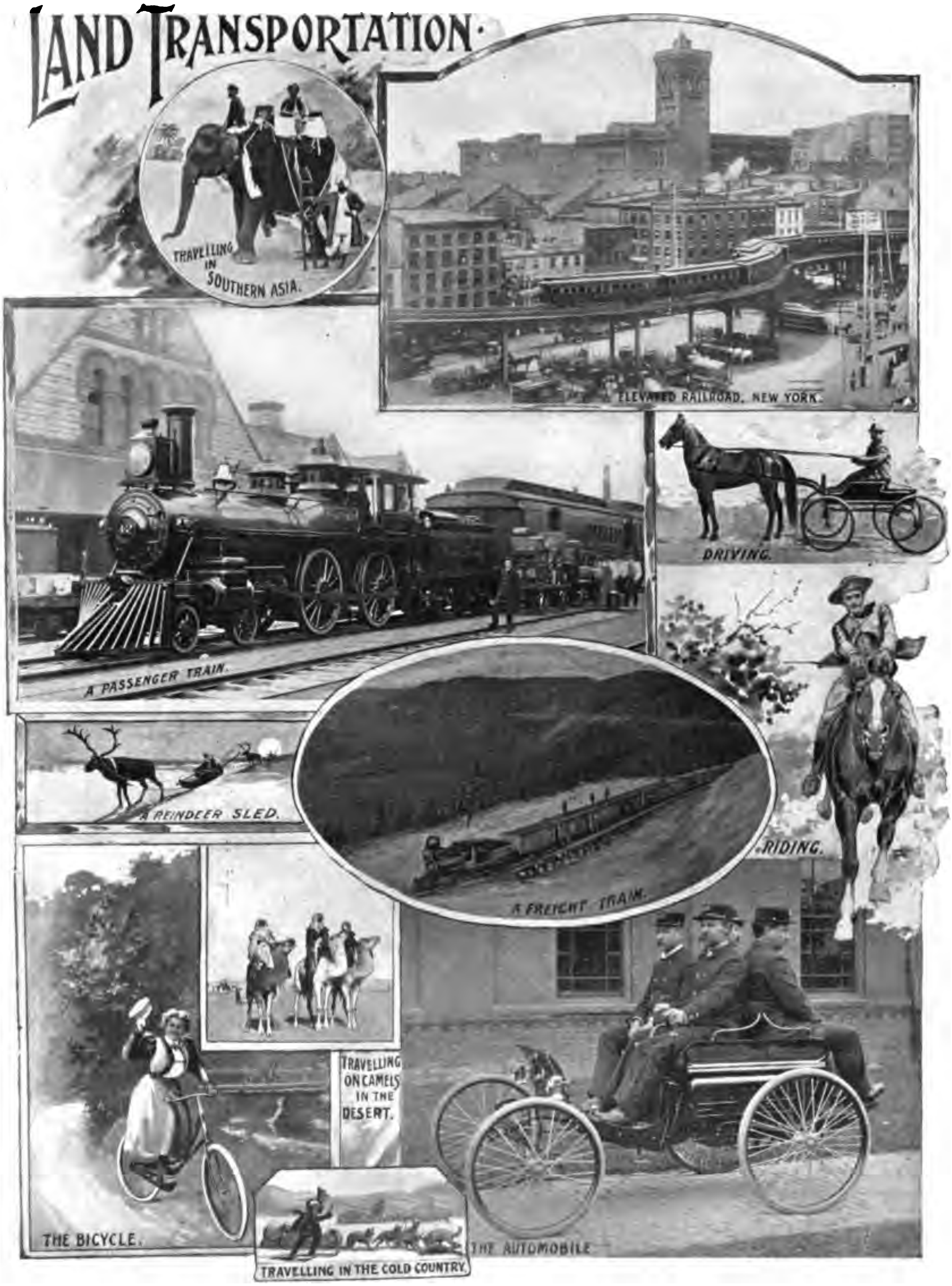
HUNTING and TRAPPING.—*In t colder temperate countries of the wor men are engaged in* HUNTING *and* TRA PING. They *hunt* and *trap* the small wi animals which furnish furs for the fur trade-centers. The fur of animals in the co regions is closer and fine than that of animals in an other part of the world. Wh Ermine, mink, beaver, otte and sable are the princip fur-bearing animals. T which family group do the belong? (Page 38.)

A FUR-TRADING POST, CANADA.

Find out what you can about the manner hunting and trapping. Describe the pictures.

London and New York are grea fur markets, Nizhni-Novgorod in Russi is also a great fur market. The greates fur market in the world is Leipsig i Germany.

LAND TRANSPORTATION.


TRAVELLING IN SOUTHERN ASIA.
ELEVATED RAILROAD, NEW YORK.
A PASSENGER TRAIN.
DRIVING.
A REINDEER SLED.
A FREIGHT TRAIN.
RIDING.
TRAVELLING ON CAMELS IN THE DESERT.
THE BICYCLE.
THE AUTOMOBILE
TRAVELLING IN THE COLD COUNTRY.

Commerce and Trade-centers.—Commerce *is another very important industry. All people who produce more of any article than they need for use at home, must find a market for it. Commerce engages great numbers of people in various ways in all sections of the world.*

A STREET IN THE LARGEST COMMERCIAL CITY IN NORTH AMERICA; THE SECOND LARGEST CITY IN THE WORLD.

By commerce *we mean the trade or exchange of products in one's own country or between different countries.*

The people of the cold and of the hot countries are engaged in small trade or *barter* for the necessaries of life. *White people have developed and are developing the commerce of the hot countries.*

In sections of the temperate belts, especially in North America and Europe, we find the great *commercial cities* or *trade-centers* of the world.

Commercial cities *are usually lake, river, or sea ports. They are connected by railroads with all other important trade-centers.*

It is necessary to provide *means* for the carrying or transportation of these products. Different countries employ different means. All goods are carried by railroads, steamships, canals, or caravans.

Describe the different scenes representing the different modes of transportation. Compare one with another. Compare one boat with another.

All facilities for travel and for the transportation of products have increased the commerce of the world.

Try to find out something of the cost of the different modes of travel and transportation.

Every nation of importance has means for transporting products and merchandise by land and by sea.

The steamers which carry merchandise are called "*merchantmen.*"

Boats having flat bottoms are used in the more shallow water of lakes and rivers.

GOVERNMENT.

In all our games we have leaders and follow, or are governed by, certain *rules* or *laws*.

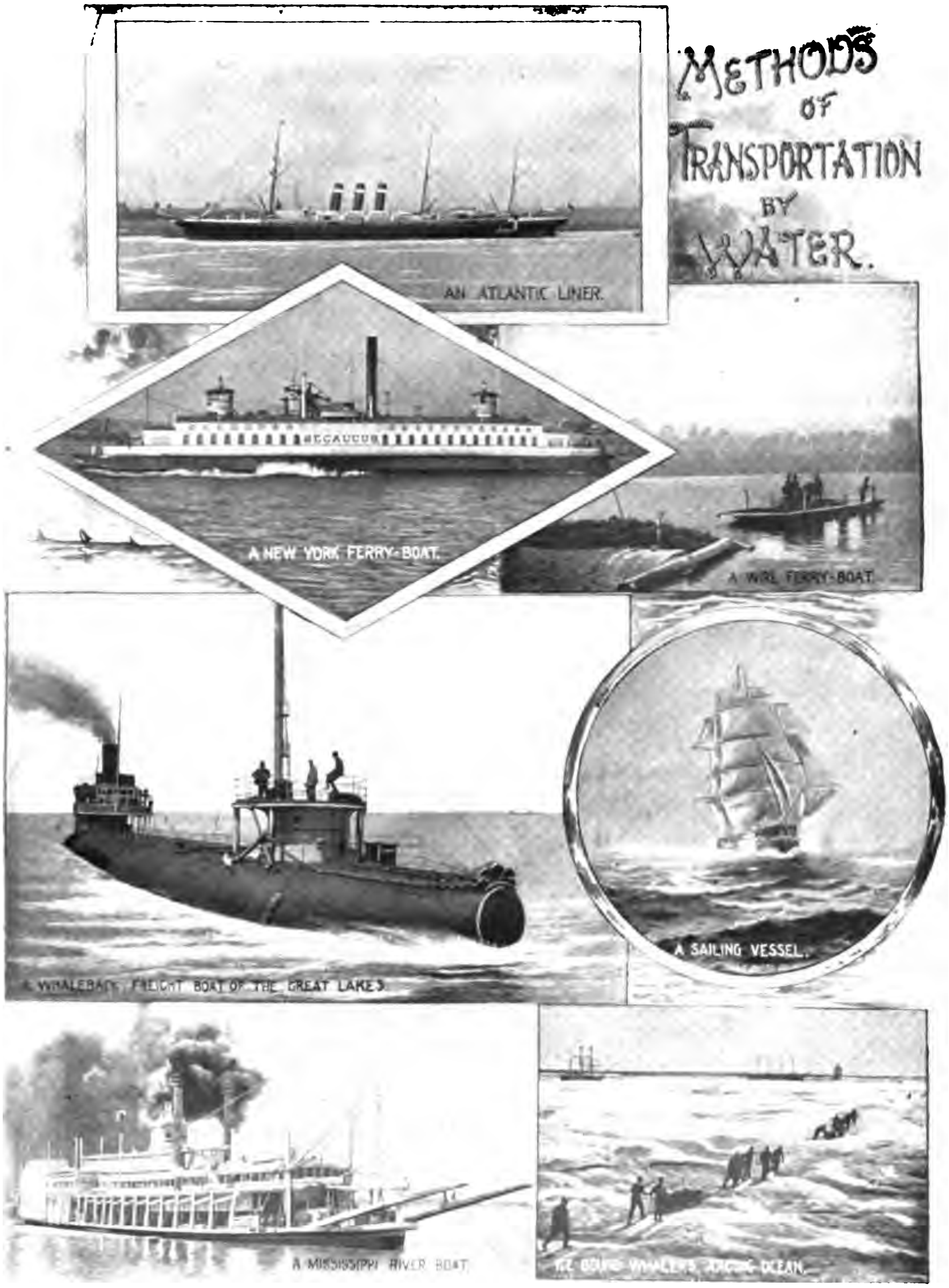
In your home you follow certain *rules* or *habits of living*.

In our schools we have certain orderly ways of doing things, and follow certain rules of conduct for the good of each pupil and for the good of the school.

You do not feel the force of any rules or laws at home or in school until you break them.

People make homes in villages and cities where they can best get a living

METHODS OF TRANSPORTATION BY WATER.



AN ATLANTIC LINER.

A NEW YORK FERRY-BOAT.

A WIRE FERRY-BOAT.

A WHALEBACK, FREIGHT BOAT OF THE GREAT LAKES.

A SAILING VESSEL.

A MISSISSIPPI RIVER BOAT.

ICE BOUND WHALERS, ARCTIC OCEAN.

They unite to make rules or laws by which all the people in the village or city shall live. They do this for mutual benefit and protection, and also to defend themselves against any common enemy. Can you think of some of the benefits?

The people of States and Nations need certain laws by which all shall live. They need them both for protection and for defense. This is *government.*

All bodies of people who are governed and protected by the same general rules or laws are said to live under the same GOVERNMENT.

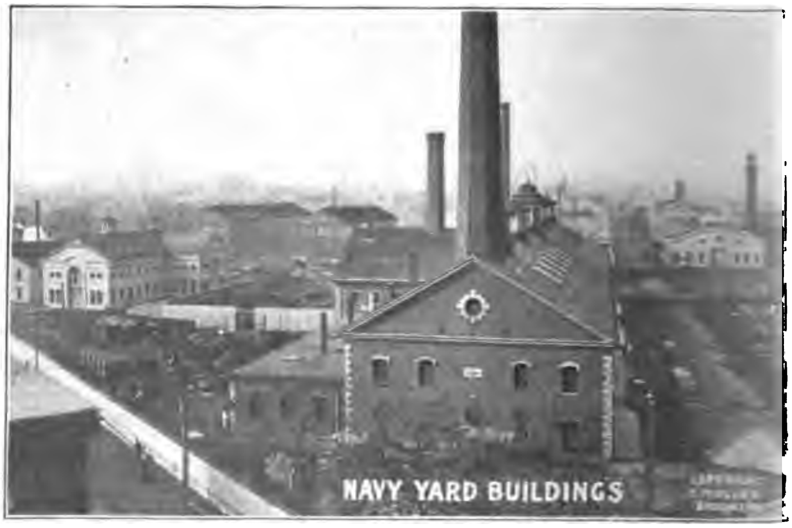
There are different kinds of government, as home, school, city, State, and national governments. Find out all you can about the government of your town or city: who the officers are, what their duties are, and how they are paid.

Our own national government is a* REPUBLIC. *A Republic is that form of government in which the people make their own laws and choose their own leaders.

MEANS OF PROTECTION AND DEFENSE.

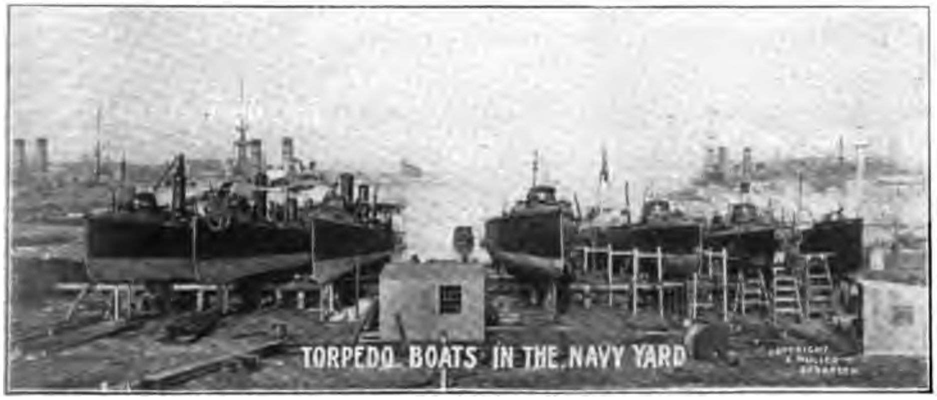
THE NAVY.—*Every important country in the world owns and supports a* NAVY *for protection and defense.* A navy protects the coast of the country to which it belongs. It also protects the interests of that country in foreign lands and it protects their merchant vessels at sea.

A navy consists of navy yards, of armored battleships, cruisers, torpedo-boats, and other craft for the transportation of supplies. All of the boats carry guns and ammunition excepting those carrying supplies.



The various naval vessels are commanded by officers and engineers, who have been specially educated for their position at their government's expense. The vessels are manned by gunners, sailors, and men representing different trades. These latter make the necessary repairs at sea.

Several naval vessels are usually under the command of one superior officer. Such a group is called a *squadron*.



Each country has several navy yards. They always border the sea. Each navy yard is in command of a naval officer. In the navy yards, naval vessels are built and repaired, and naval guns are made. While building and during repairs each vessel is kept in a *dry dock*.

Describe the dry dock. Tell what you can see in the picture of the navy-yard buildings. The pictures on this and the preceding page were taken in the Brooklyn Navy Yard.

Find out what materials are used and about what it costs the government to build one naval vessel. Can you think in what ways a naval vessel is differently built from a merchant vessel? Make a collection of pictures of naval vessels and learn what you can of our navy.

Our own navy is large and is increasing in strength and importance each year. Our government has navy yards at Portsmouth, N. H., at Charlestown, Mass., Brooklyn, N. Y., Washington, D. C., Norfolk, Va., and at San Francisco. Find each place.

Great Britain, Germany, Russia, France, and Italy have large navies.

THE ARMY. — *The regular* ARMY *is another means of defense.* In times of peace our regular army is scattered among the various *forts*, which are *army* posts.

Find out the number of men now allowed by Congress in our regular army. Where are our soldiers at the present time?

Great Britain, Germany, France, and Russia support very large standing armies.

Learn what you can of our *coast defenses*.

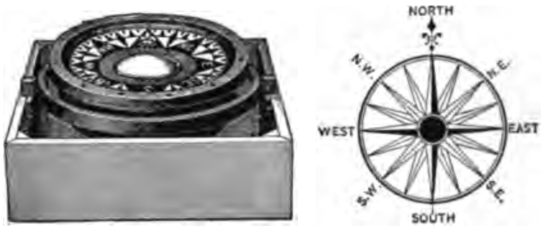
All important coasts and harbors are protected by FORTS, GUNS, *and a* COAST GUARD *from any invasion of an enemy.*

POINTS OF DIRECTION.

Point in the direction you see the sun come up in the morning. We call that direction *East.*

Point in the direction you see the sun sink out of sight at night. We call that direction *West.*

Into which windows will the sun shine in the morning? Into which windows will it shine late in the afternoon? Name the pupils who sit east of you in the school room; west of you. What objects are east of you in the building; west of you? What objects or buildings are east of the school? What objects or buildings are west of the school? In what direction does your shadow point in the morning? Just before sunset?



MARINER'S COMPASS.

In what direction does your shadow point at noon? We call that direction *North.*

Stand with your face to the north; your right hand will be toward the east; your left hand toward the west. *South* will be behind you.

Point south; north. Point to the pupils and objects in the school-room which are south of you; north of you. Tell as many objects as you can which are in the south part of the room; in the north part of the room. Point toward and name any prominent buildings or objects which are south of the school-building; north of the school-building.

In what part of the day are the shadows growing shorter? When are they shortest? In what part of the day are they growing longer? In which direction do the sun shadows never point?

Exact directions are learned by means of the MARINER'S COMPASS. When at rest the needle of the compass always poi to the north; south is opposite. E and west, which are opposite each oth are exactly halfway between north a south.

These four points of the compass called the CARDINAL POINTS.

Halfway b tween north a east is *North* between south a east is *South* between north a west is *North* between sou and west is *Southwest.*

These four points are called the CARDINAL POINTS.

Point northeast, southeast, northwest, so west. Name pupils and objects in the sch room which lie in any of these directions you. Name buildings or objects out of d and tell in which direction each is from school-building. Tell the directions you w take to go home. Tell the directions of pupils' homes from your home. Tell the d tion of the post office, the church, and to city hall from your home. Point to the neare lage or city, and tell its direction from your h Find out the direction of other large places you. Point toward them.

In what direction does your shadow fall bet nine and ten o'clock in the forenoon? between and four o'clock in the afternoon? Toward w semi-cardinal points will your shadow never

Observe if the shadows are always the length at the same time of day.

Drive a stake in the schoolyard or a tack in school-room floor on the first day you observe noon shadow. Note if the shadow grows shorte longer each day. Mark its limit in each direc

Note what season is approaching as the sha become longer; as they become shorter.

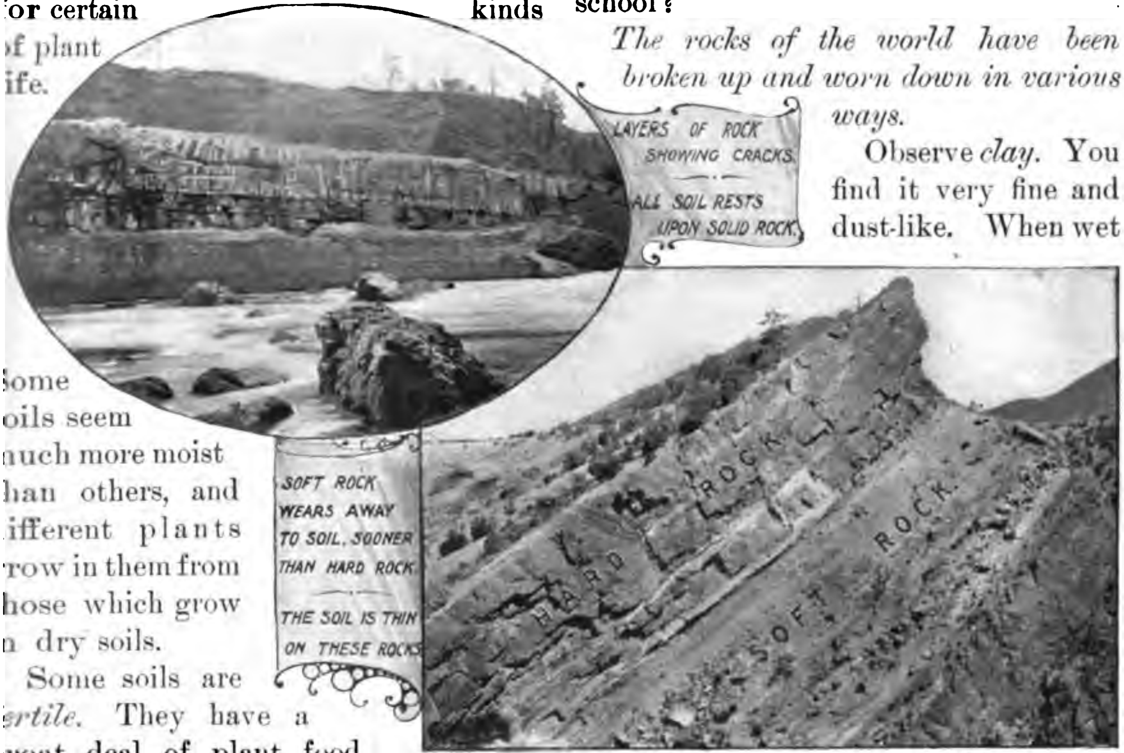
PART II.

PHYSICAL FEATURES OF OUR EARTH.

(This study should be based upon the physical eatures of the district or neighborhood.)

SOIL AND SOIL-MAKING.

In our study of plants and trees we ave found that there are several kinds f *soil.* Each kind has peculiarities of ts own and has in it the necessary food or certain kinds f plant ife.


LAYERS OF ROCK SHOWING CRACKS.
ALL SOIL RESTS UPON SOLID ROCK.
SOFT ROCK WEARS AWAY TO SOIL, SOONER THAN HARD ROCK.
THE SOIL IS THIN ON THESE ROCKS
HARD ROCK
ROCK
SOFT ROCK

ome oils seem uch more moist han others, and ifferent plants row in them from hose which grow n dry soils.

Some soils are *rtile.* They have a reat deal of plant food. ther soils are *sterile.* They have little lant food. I wonder how many kinds f soil you know?

Bring to school specimens of the dif-rent kinds in your neighborhood. Take ome *sand* upon a small square of white paper. Carefully observe it. Tell us whether it is coarse or fine, whether it has pebbles or gravel in it. You find that each little grain of sand is *glassy* in appearance. If you should rub it on your slate or desk, it would *scratch* it. If you should rub it between your thumb and finger it would *hurt* or *cut* you. These facts tell us that it is very hard, like a bit of rock, and has sharp edges. It was once a part of a *rock ledge.* Do you know of any ledge near your school?

The rocks of the world have been broken up and worn down in various ways.

Observe *clay.* You find it very fine and dust-like. When wet it is *sticky.* It *feels* very smooth and greasy when you rub it between your thumb and finger. *Breathe* on it, and you find it has an *odor* like your slate or slate-pencil.

Bring a piece of *granite* into school.

You find in it the glassy mineral, *quartz*, which makes the sand; the *mica*, which consists of shiny little scales or flakes which decay into soil; and a light-colored mineral which may be pink, white, or greenish. This light-colored mineral is *feldspar*. Feldspar is a rather soft mineral which decays under the action of rain, snow, frosts, and heat. It turns an opaque white and breaks up into very fine particles which become *clay*. Clay is easily washed by the streams to lower levels, where it forms *clay beds*. These beds hold a great deal of moisture.

Porcelain, chinaware of all kinds, pottery, and brick for building are made from clay.

After many years of heat and pressure, clay beds become *slate beds*, from which we get our slate.

Examine some soil from the woods. You see it is very dark-colored, moist, and full of bits of leaves and sticks. It is *leaf-mold*, and is formed by the decaying leaves, twigs, and roots of the forests. It is a very rich soil, and our garden flowers will thrive in it.

Observe garden soil or *loam*. You will find it a mixture of the other soils. Last year's stalks, roots, and leaves have decayed and become soil. Even a portion of the outer bark of the trees fall off to decay to soil.

Animals, insects, and plants die and decay to soil.

Try plants in each of the soils, to find out which is the best, which needs the most moisture, etc.

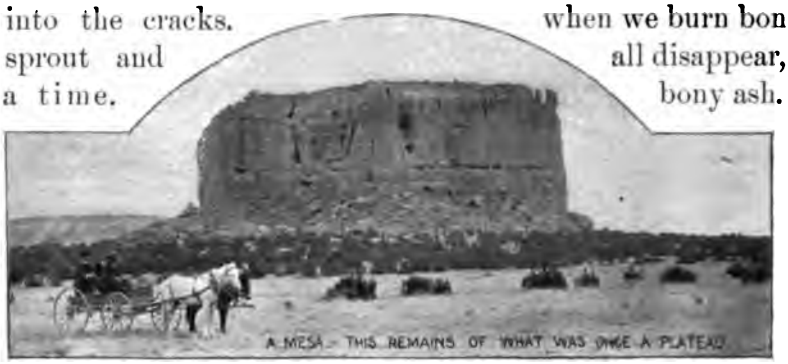
If you rub one piece of stone upon another, a *rock-flour* or dust comes off, and the stone is worn smaller. **Rub a nail or a piece of iron on wood; a woody dust comes off.**

Our clothes, furniture, cooking utensils, water and gas pipes, cars and carriages, and all things that are made wear out and go to pieces, making *dust* and *dirt*. What tells us that the iron and tinware and the pipes are wearing out? Do they wear out sooner out of doors or in doors? Why?

Soil *is made by the wearing and decay of rocks and of all plant, animal, and mineral substances.*

How do rocks wear out and decay?

If you examine a rock ledge you will see cracks in it. You see them in the picture on the preceding page. Into these cracks water finds its way, and after a time it softens the rock. In winter the moisture freezes, and this cracks the rocks as "Jack Frost" cracks the water pitcher.



A MESA – THIS REMAINS OF WHAT WAS ONCE A PLATEAU

The water washes a little soil and some seeds into the cracks. The seeds sprout and grow for a time. Their rootlets reach out for food into the crevices, and in doing so break the rocks still more. The alternate heating and cooling of the rocks, with the changes of the seasons, also cause the rocks to break up.

Soft rock wears out more rapidly than hard rock. See pictures on preceding pages. The hard, resistant rock stands after the softer portion has left it. Note pictures on this page. The bad-lands are the remains of a *lava flow* from some volcano. Lava is a very hard rock.

Heavy rains and melting snows *wash* the lighter stones and soil down the slopes to lower levels. The stones rub and grind against each other and against rocks in their descent, thus continuing the process of soil-making. The soil is unevenly deposited in *layers* which rest upon solid rock. *All soil, though varying in depth, rests upon a rock foundation.*

BAD LAND, NEBRASKA.

Soils need to be loosened and made light if plants are to grow well. Can you think of any reason for this? Tell how soil is usually loosened for plant growth. The earth-worm is a most valuable and necessary worker in the soil.

We know that our bones are hard; that when we burn bone it does not all disappear, but leaves a bony ash. If we burn wood or coal or almost any other substance ashes are left. These ashes are composed of the mineral substances which cannot be destroyed by fire.

How do mineral substances get into the trees, plants, and all animal bodies?

When we put sugar into water the water tastes sweet; if we spill the water we find it sticky. If we put salt into water it tastes salt. Alum will make the water sour and puckery. We *taste* but can no longer *see* the *solid substances.* They have been *dissolved* by the water. A *solution* has been made. Warm water would dissolve them more quickly than cold water.

A part of the water which falls in rain soaks into the soil as well as into the cracks of the rock.

As the water sinks underground and flows through and over the rocks, it dissolves some of the minerals of which the rocks are made. This gives the water more power to eat and dissolve other kinds of rocks, thus softening them more readily. The water becomes laden with the mineral substances which it has dissolved in its course.

This takes place in the deep underground passage of water through the earth's crust.

Water may flow underground for a long distance and then come to the surface again as a *spring*.

Have you ever seen a spring? If so, tell us about it. If the water has dissolved much iron in its passage it will taste of iron. Another spring may taste of sulphur, and others of different minerals.

Much of the water which we drink contains mineral matter, though we may not taste it.

Animals and people get most of the mineral matter which is needed for bone-tissue from the water which they drink and in the vegetables and fruits which they eat.

When we eat salt, and some other substances, we are taking the mineral matter directly into our bodies. All mineral matter taken into our bodies is absorbed by the blood. The blood carries it to the parts of the body which need it. In the same way the bony part of the bodies of all animals is built up.

In plants the mineral matter is the hard part which gives shape to the leaves and an upright position to th stalk. The glaze, on the outside of t stalks and grain of all the members of t Grass Family, consists of mineral matt This mineral substance is taken up solution by the rootlets. It is carri by the sap to the different parts whi need it.

In some instan the water becom greatly heated in underground pass and comes to the s face as *hot-sprin* Some of these spring throw out, at int vals, great spouts hot water. Su springs are calle *Geysers*.

There are celebrat geysers in the Yello stone National Par U. S. A., in Icelan and in New Ze land. In man localities of t world there a numerous ho springs which d not spout.

If you leave t salt, sweet, alum solution in shallow dish, t water will *evaporate*. Little grains *crystals* of each—sa sugar, and alum—will left. When the water whi is thrown out by the geyse evaporates or flows away, it leaves a solid mass matter as in the picture of "*Pulpit Rock.*"

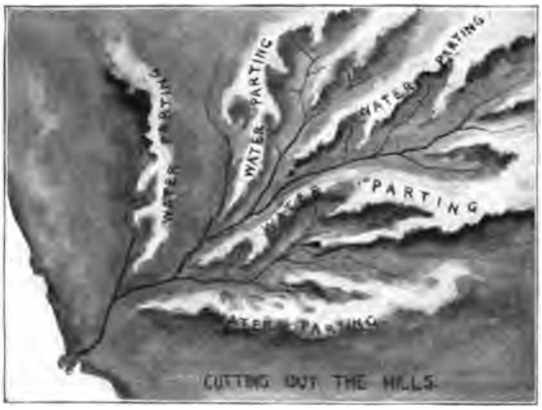
Visit all springs in your neighborhood. Compare one with another. Make experiments as suggested. Observe and state results. Tell how so are necessary for the life of plants, animals, a man. Make a collection of different soils. Brin in pictures which show the wearing of rocks.

STUDYING THE BROOK-BED & WATER-PARTING.

HILLS AND VALLEYS.

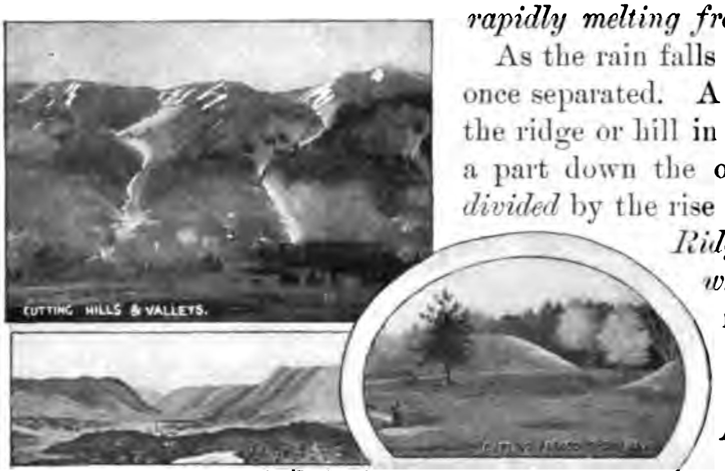
We have learned that the land sur- ace of the earth consists of *hills*, *moun- ains*, and *plains*.

These hills and ountains were not lways here. If you bserve almost any mall area during a low rain you will e that most of the ater soaks into the round to refresh he plant life or to nd some under- round passage through the earth's crust. f you observe during a heavy rain, you ill see that most of the water does ot soak into the ground, but takes different directions on the uneven surface, forming many little *streams*. These streams cut little channels in the ground surface as they flow down the different slopes, to unite with other streams or to reach a lower level. Trace the streams in the lower picture on this page. You see that *many little streams feed the larger or main stream.*



CUTTING OUT THE HILLS.

The rain which washes the surface, together with all the little streams which act as *feeders* to the larger streams, wear away the soil and widen the space on each side of the channel into a *valley*. Little hills are left between these valleys.



After the rain the stream-bed or *gully* may dry like the one in the upper picture on the preceding page. But when the next heavy rain comes the channel will be cut deeper, more soil will be carried from the valley sides, and larger hills will be left between the valleys. This will continue until the stream has cut its channel down to the level land.

HILLS *and* VALLEYS *are being carved by the action of water during heavy rains all over the earth.*

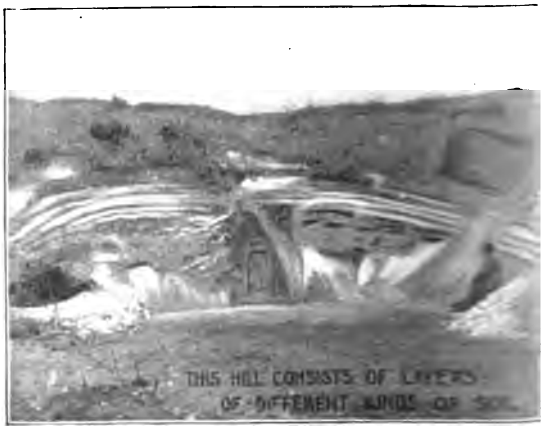
When the rain is very heavy great quantities of soil are loosened. All of the streams are muddy. This tells us that they have washed the loose dirt or soil from their pathway and are carrying it to a lower level. The small streams which are doing this work are called *brooks*.

The carrying of soil by the strea takes place everywhere on the earth d ing a heavy rain or when the snow rapidly melting from the hill or mountain sid

As the rain falls you notice that the water is once separated. A part flows down one side the ridge or hill in little streams or *feeders*, a a part down the other side. It is *parted* o *divided* by the rise or ridge of land.

Ridges which part the wa when it falls are called WATE PARTINGS *or* DIVIDES. *T water-parting is the high line where two slopes meet.* As the little streams reac the foot of the slop they unite with oth little streams which flo down the opposite slop All of these streams fo a larger stream whi flows between the t slopes.

The CHANNEL *of this large stream the lowest line where two slopes meet.*

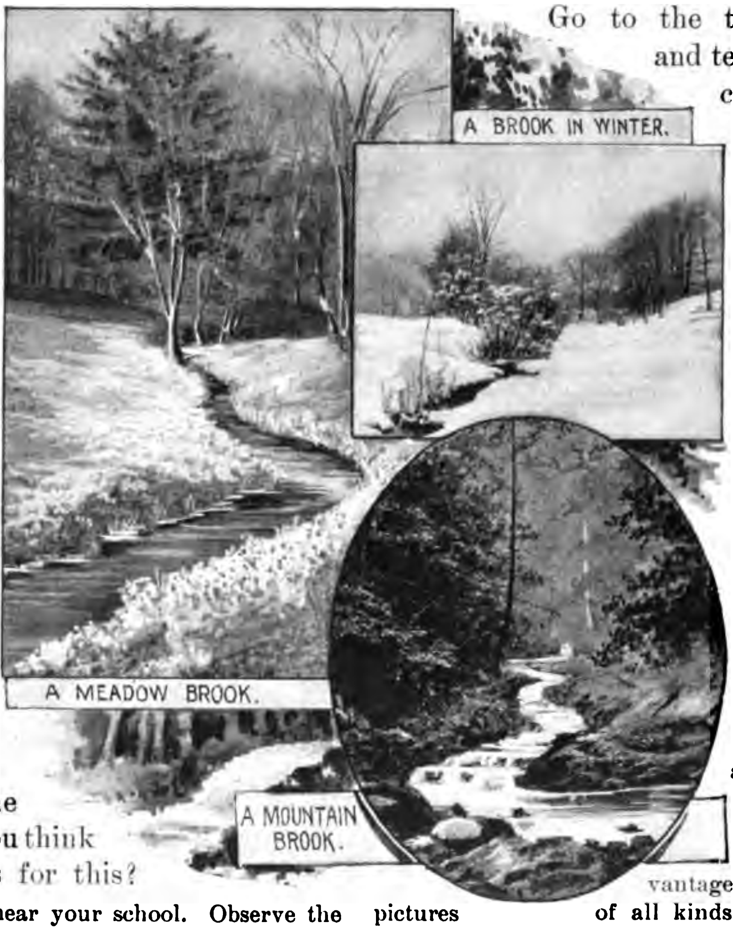


All the land that is drained by t large stream and its feeders is a STREA BASIN.

Trace the water-partings and the streams in all of the pictures; also in the schoolyard or in the treet. Trace the limits of the different stream basins in the pictures. Find the valleys. Find different stream basins in your neighborhood. What is a ***brook basin?***

Most villages and cities are in valleys and on plains. Many farms are among the hills. Some city people build beautiful homes among the hills because it is usually more healthful, and restful, than in the valleys.

You will ind that nearly all highways ead down he hillside nto the valeys; that nearly all railroads and trade enters are in the valleys. Can you think of any reasons for this?



A MEADOW BROOK.

A BROOK IN WINTER.

A MOUNTAIN BROOK.

Visit the hills near your school. Observe the lants and trees which grow on them. What lants grow near the top? What near the foot? Which must get the most moisture? On which side of the hill do the plants get the most sunght? In the spring note on which side the snow melts last. Can you think why?

Clear water does not wear down the valleys as rapidly as muddy water. Can you think why? Where is it cooler—on the summit of a hill, or in a alley? Can you think why it is often so warm in a valley? Where is it often foggy? Where do you see the sun last at sunset, on the hilltop or in the valley.

The HORIZON *is the line where the earth and sky seem to meet.* It is the line which bounds our vision. Point to it. Find the horizon in the pictures of land and water which we have studied.

Go to the top of a hill and tell all that you can see within your *horizon.* In many parts of the world other children can see similar earth features within their horizon.

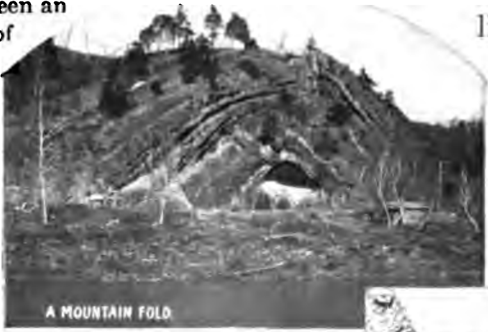
At what season would you like to live down in the valley? At what season on the hilltops? What are some of the advantages of living among the hills at all seasons? What are some of the disadvantages? Bring in pictures of all kinds of hills, and of brooks. Arrange them neatly on a chart or in a portfolio.

Describe each of the scenes on this page. What grow beside the meadow brook? Which flows more swiftly, the meadow or the mountain brook? Describe the winter scene. In the picture find where the water *falls* from one layer of rock to another layer of rock in the mountain brook. This is a *waterfall.* You can see where it flows *rapidly* over a rocky bed. These are *rapids.*

THE SHASTA REGION OF THE SIERRA NEVADA

MOUNTAINS.

Mountains are much higher than hills. They are being cut and worn down in similar ways through the combined action of the weather and the streams. They were differently formed, however, from most of the hills.


A MOUNTAIN FOLD

Most of you have seen an apple in the process of baking or after it was baked. You know that the heating of the juice produced steam, which pressed hard against the skin on the inside to get out. The apple seemed puffed out and was very shiny at this stage of the baking. After it was baked and cooled the skin was wrinkled and folded into little ridges and depressions. The heated vapor had escaped or cooled, and the skin had wrinkled to cover the shrunken surface.

In a similar way to the process of baking an apple the steam and gases inside of our earth, in some far-off time, pressed unevenly against the earth's crust. They pushed it up in places into great swellings. When the gases had escaped or cooled the crust wrinkled into *folds*. Sometimes great sections of rocks were uplifted a pushed out of position in *blocks*.

The folds and blocks which have b uplifted by the internal pressure are th MOUNTAINS *of our earth.*

In the pictures you see that rock ledges are blocks. (Page 69.) Trace the folds in the pictu on this page.

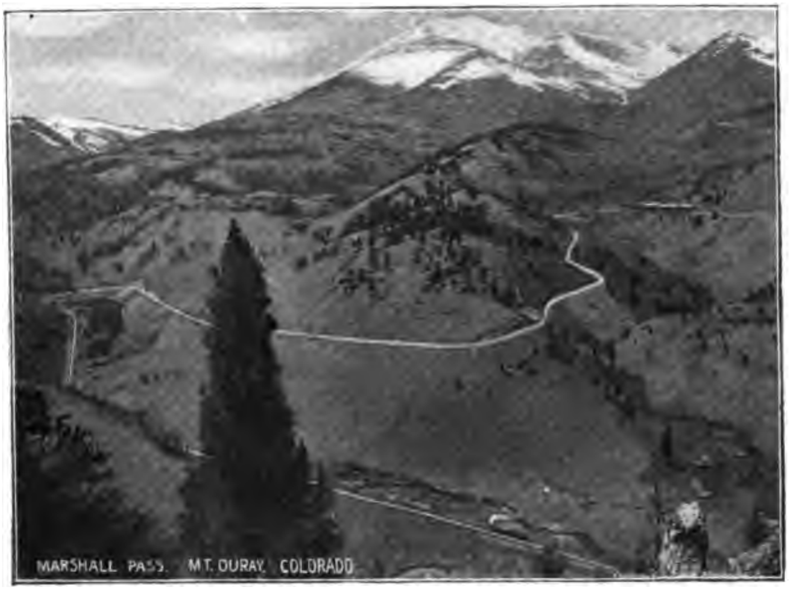
In some sections of our earth the lifting and folding are still g ing on. They are so slow th people do not notice the

In many mountainous r gions there are high plai between the mounta ridges. These are *plat*

SOMETIMES THE ROCKS ARE PRESSED & TWISTED IN ALL

Visit mountains near your school, if th are any. Observe what you can in reg to their formation.

When the skin of the apple we are baking is thin it bursts open from the inside pressure, and the pulp and juice are thrown out into the oven.



Where the crust of the earth is thin the pressure from within bursts it open, and we have a *volcano.*

A VOLCANO *pours forth steam, gases, and melted rock or lava.*

Popocatepetl **in Mexico is a volcano.**

Most of the volcanoes of the world are not far from the sea. There are many volcanic cones on the islands of the sea, showing that they have been pushed up from the sea bottom. The picture of ***Mount Edgecombe*** **represents one of these.**

A single mountain is a *peak.* Many mountain peaks were once volcanoes. *Mounts Ouray*, *Hood*, and *Shasta* were once volcanoes. (See pictures.) Many of these cones have been worn so that they bear little resemblance to a volcano at the present time, but some peaks are of the hard, resistant rock which is not easily worn down.

A long ridge of single mountains is a MOUNTAIN RANGE.

A cluster of mountains forms a MOUNTAIN KNOT.

Several mountain ranges extending in the same direction, or several mountain knots near together, form a MOUNTAIN SYSTEM.

Trace the mountain ranges in the pictures. Find the knots and crags.

Find mountain systems in the earth pictures. Model a volcano, a mountain peak, range, knot, and system. Sketch each, naming parts.

The highest land form of our earth consists of a ridge extending from Cape Horn, at the southern point of South America, along the western coast of South America

and North America, across Bering Strait into Asia, across Asia, dividing into two branches in the central part. One branch extends down the eastern coast of Africa, while the other extends westward across Europe to the Atlantic Ocean. It is called the *World Ridge*.

Trace this great highland section in the world pictures. (See pages 7, 9.) Tell in what direction it sends the long slope of each grand division; the short slope of each. Tell on which slopes the long rivers descend.

SAN FRANCISCO MTS. ARIZONA WITH MOUNTAIN MEADOW & PINE FOREST.

The highest land-forms of the world, which make the world ridge, are called the PRIMARY HIGHLANDS. *They form the great slopes of the continents.* The mountains of these highlands are high and rugged. The summits of many of their peaks have never been reached by man. Their great height and ruggedness tell us that these mountains were formed more recently than other highlands of the world.

A MOUNTAIN SYSTEM.

From the world pictures and maps tell what mountains belong to the Primary Highlands of the different continents. Trace them.

On the long slope of each continent you find other highlands. These are the *Secondary Highlands* of the world. They help to form the great river and lake basins.

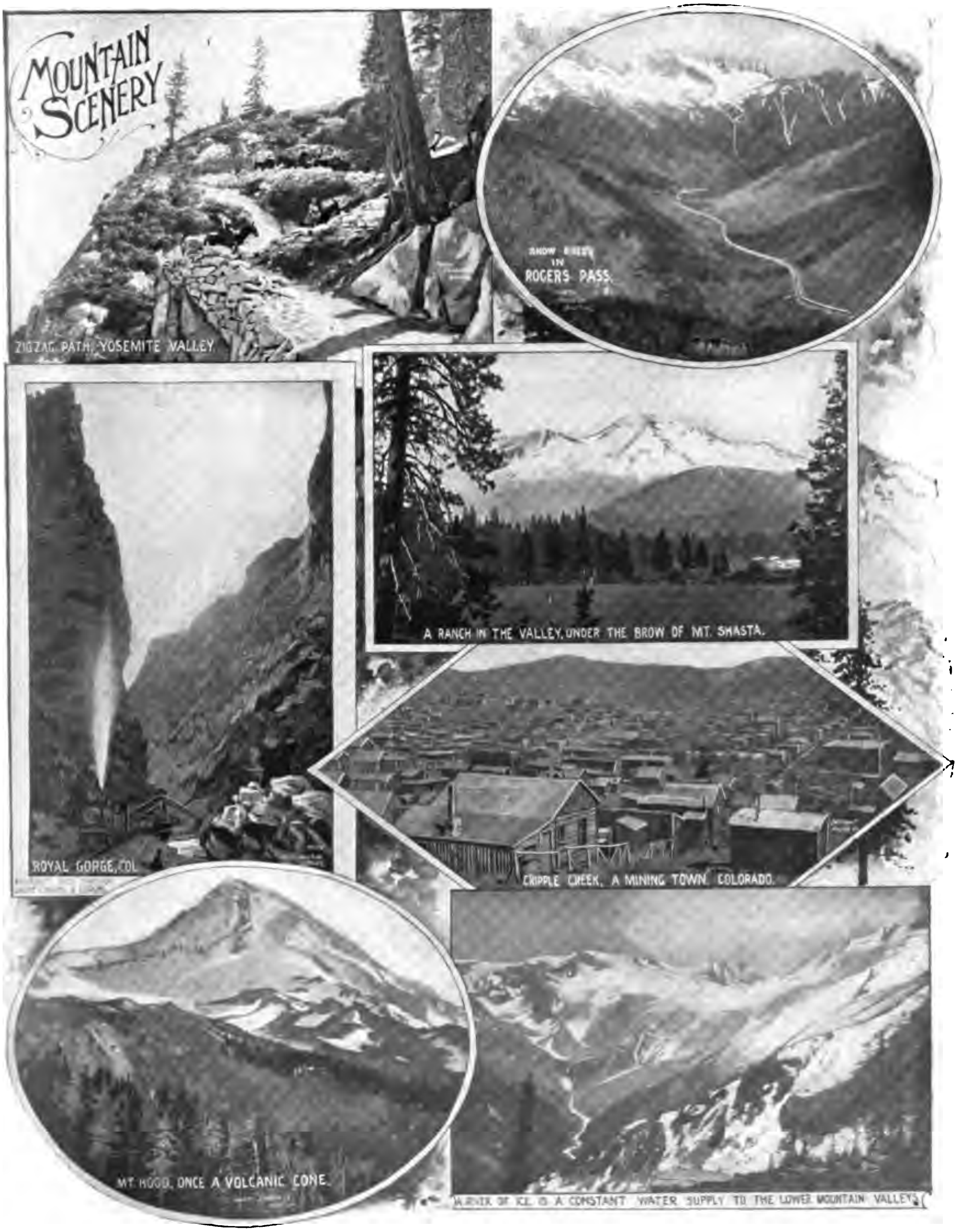
The mountains of the Secondary Highlands are flat-topped and rounded, showing that they are very old and have been very greatly worn down. They are secondary only in height, as they are older than the Primary Highlands.

The Appalachian Highlands of North America; the Brazilian and Guiana Highlands South America are good examples of secondary highlands. Find and trace them.

Mining towns are scattered among the mountains, because in the mountainous regions the metals and minerals of the world are found. *Ranches* or *mountain farms* have been opened up; *trade centers*, even *factory towns*, have sprung up in order to supply the people of the mining towns with such articles of clothing and food as they need.

Once *mountain traveling* was dangerous and tiresome; but through the white man's skill and ingenuity in engineering, mining towns have been connected by the trolley lines, mountains have been tunneled and crossed in long loops so as to lessen the slope, chasms have been

MOUNTAIN SCENERY



ZIGZAG PATH, YOSEMITE VALLEY.

SNOW SHEDS IN ROGERS PASS.

ROYAL GORGE, COL.

A RANCH IN THE VALLEY, UNDER THE BROW OF MT. SHASTA.

CRIPPLE CREEK, A MINING TOWN, COLORADO.

MT. HOOD, ONCE A VOLCANIC CONE.

A RIVER OF ICE IS A CONSTANT WATER SUPPLY TO THE LOWER MOUNTAIN VALLEYS.

bridged, and the railroads have ascended the valleys between the slopes. Thus many mountainous regions have been opened to business and travel. This is especially true in North America and Europe, where the white race controls.

RAILROADS CROSS AND TUNNEL MOUNTAINS.

For travel in some places the burro is still used among the Rocky Mountains, and the mule in the mountains of Europe.

You find in your study of the pictures that at the foot of the mountains forest trees and other vegetation may be luxuriant, but as one ascends, the vegetation becomes less and less luxuriant until it ceases altogether. Then the mountain summits stand out as bare rocks exposed to the cold, bleak weather, or they are always covered with snow. On some of them ice rivers descend into the warmer valleys, where they melt, forming strea These streams flow to lower levels, car ing moisture to the plant life, and to the plains or to the sea bottom. deed, the snow and ice of the mounta are a source of constant water supply the lower valleys, and are th fore a blessing to mankind.

The people are thinly scatter except in the mining distric There are few large cities. Th scenery is grand and beautif and many people delig to travel among mountains during tain seasons of the year.

Find the tunnels in the picture and trace loops in the railway. Study all the pictur mountains on preceding pages.

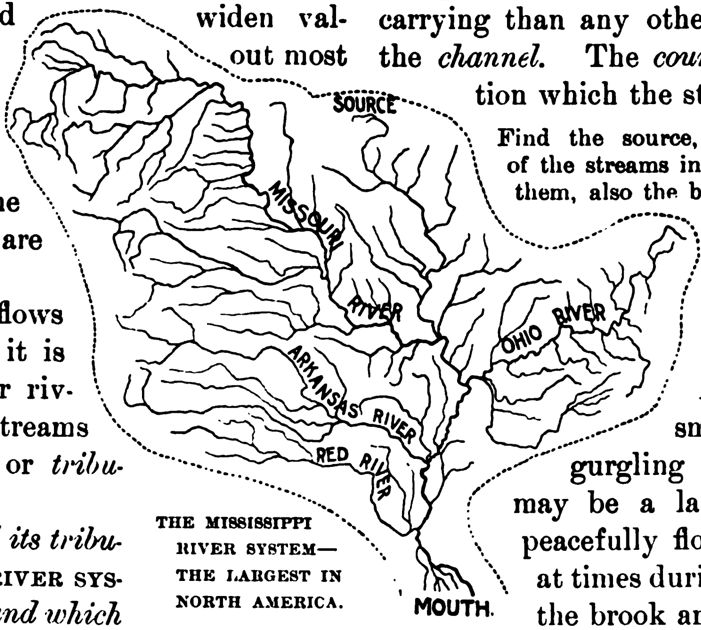
What are the pleasantest seasons for moun travel in the temperate countries? In the countries? In the hot countries?

Study each of the pictures on page 79. what you see; what the evidences of life Learn what you can about the building of s sheds to protect the railroads from snow-sl They also protect them from *land-slides*.

Bring in pictures of mountain scenery arrange as you have your other pictures.

RIVERS AND RIVER BASINS.

We have already learned that the alling rain collects on the ground n little streams, which cut channels, vear down and widen valeys, and carve out most f the hills f the world. arge streams lo the same vork, and are alled *rivers.*



THE MISSISSIPPI RIVER SYSTEM—THE LARGEST IN NORTH AMERICA.

As a river flows lown a slope it is oined by other rivrs or small streams alled *feeders* or *tribuzries.*

A river and its tribuzries form a RIVER SYSEM. *All the land which le river system drains is a* RIVER BASIN. Jearly all streams flow into other streams r bodies of water. The ocean finally eceives the 'ater of most f the rivers of le world.

ON THE VOLGA.

THE LARGEST RIVER OF EUROPE. IT FLOWS THROUGH LOW LAND.

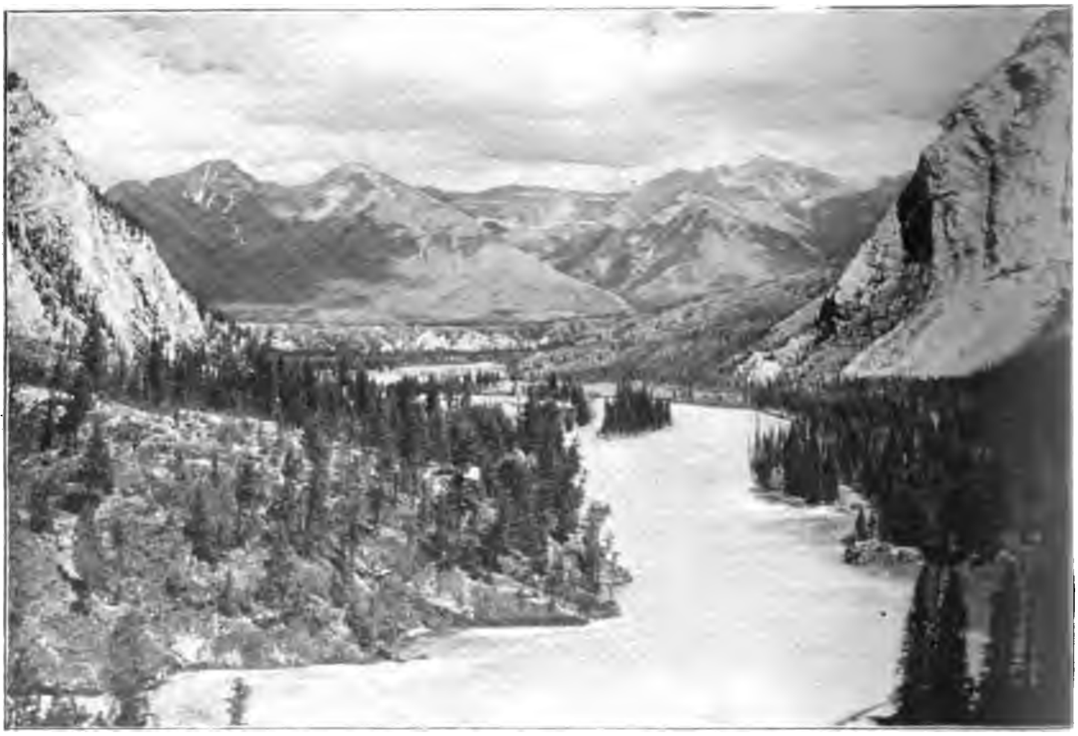
The place here any ream begins its *source.* he place here a stream ows into anher stream body of water is its *mouth.* The land rdering the stream is called its *banks.* The land over which a stream flows is its *bed.* In the lowest part of the bed the stream flows more rapidly and causes this part to do more work in cutting and carrying than any other part. This is the *channel.* The *course* is the direction which the stream takes.

Find the source, mouth, and banks of the streams in the pictures. Find them, also the bed and channel, in the streams near your school. Trace the water-partings and the tributaries in the sketch of the Mississippi-system.

A stream may be small,—a merry, gurgling brook,—or it may be a large, broad, and peacefully flowing river; but at times during the year both the brook and the river may become raging torrents, sweeping away everything that comes in their pathway.

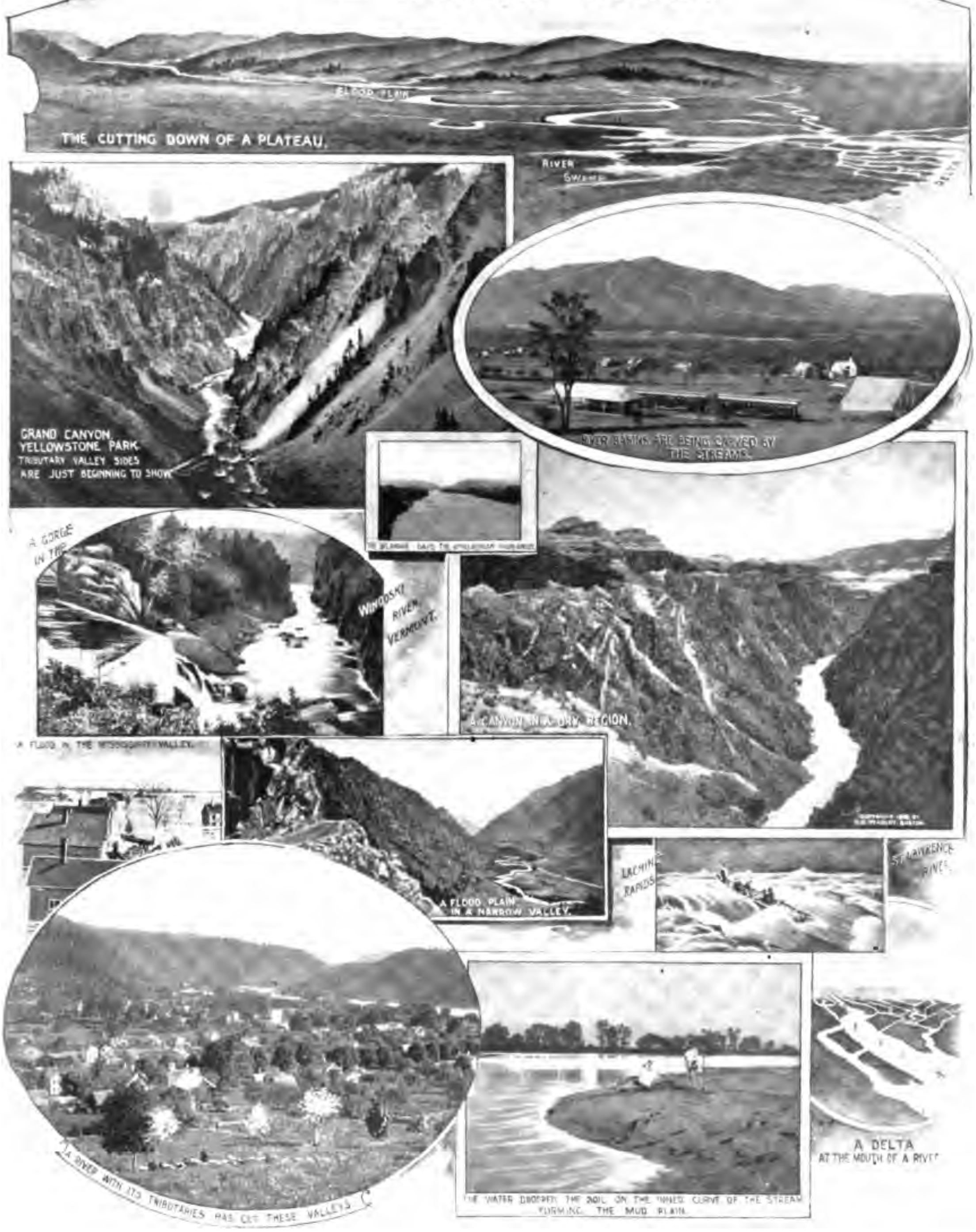
Most streams have their sources high up among the hills and mountains For some distance many of them plunge down the hill or mountain side in *waterfalls* or rush *rapidly* over the rocky bed to lower levels. In their descent, especially after heavy rains or during the melting snows, they loosen great masses of soil and rock, which are carried along by the rushing water. The larger rocks drop to the bed of the stream, the smaller ones are rolled and rubbed against each other and against the rocky bed as they are carried along, until they become *pebbles*, *gravel*, *sand*, *clay*, and other *soil*. As the stream reaches more level land it flows more slowly. It has not the force to carry as much material as in the upper part of its course. The heavier soil is dropped, the lighter soil is carried to its mouth. Here it is carried away and dropped to the lake or sea bottom if there is a current. If there is no current it is dropped at the mouth of the stream, thus building out t land. Such a stream has a *building mo*

A TRIBUTARY FLOOD-PLAIN OF THE CONNECTICUT RIVER.



A NARROW RIVER VALLEY HIGH UP IN THE ROCKY MOUNTAINS. *Describe it.*

THE WORK OF RIVERS.



THE CUTTING DOWN OF A PLATEAU.

GRAND CANYON, YELLOWSTONE PARK. TRIBUTARY VALLEY SIDES ARE JUST BEGINNING TO SHOW.

RIVER BASINS ARE BEING CARVED BY THE STREAMS.

THE DELAWARE [illegible] THE APPALACHIAN MOUNTAINS.

A GORGE IN THE WINOOSKI RIVER, VERMONT.

A CANYON IN A DRY REGION.

COPYRIGHT [illegible] BOSTON.

A FLOOD IN THE MISSISSIPPI VALLEY.

A FLOOD PLAIN IN A NARROW VALLEY.

LACHINE RAPIDS ST. LAWRENCE RIVER.

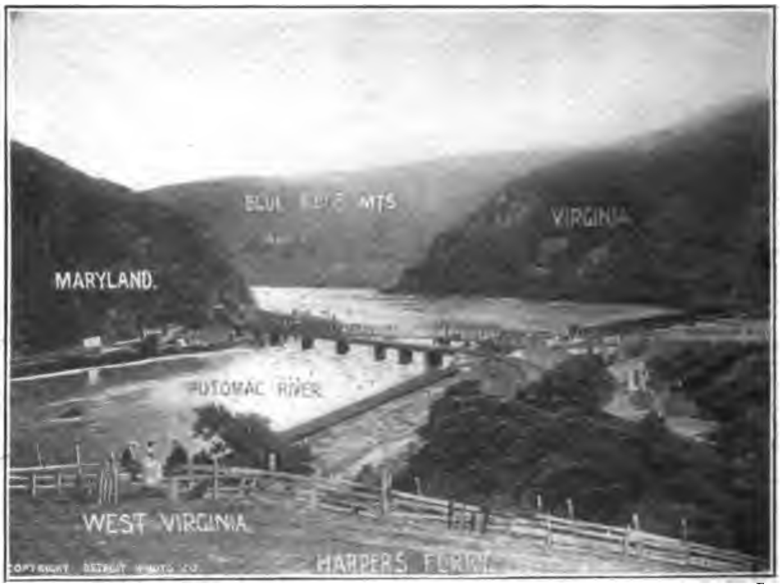
A RIVER WITH ITS TRIBUTARIES HAS CUT THESE VALLEYS.

THE WATER DROPPED THE SOIL ON THE INNER CURVE OF THE STREAM FORMING THE MUD PLAIN.

A DELTA AT THE MOUTH OF A RIVER.

A DRY REGION FOR MOST OF THE YEAR.

The deposit is a *delta*. Find the deltas in the pictures.



During heavy rains or melting snows many streams overflow their banks and spread out like great lakes on the level land, submerging everything in their way. This is a *flood*.

The land covered at flood-time is a FLOOD-PLAIN.

The water which covers the flood-plain is filled with fine soil or with sand. When the flood subsides and the stream returns to its banks, the flood-plain is covered with mud. For a long time the water stands upon the surface in ponds.

The floods cause most flood-plains to have a very rich, moist soil.

During the flood the valley sides are widened and cut back nearer to the source of the stream.

The main river of a system not on cuts its own channel in the mountai side or in the plateau, but each tributar stream does exactly the same thing.

Study all of the pictures. Trace the tributar basins. Describe each.

All streams have a work to do in cuttin down the highlands, wearing out the valleys, and in carrying and depositing material to build up the plain or to build out th seashore.

Som rivers flow in the valleys between th mountai folds Other rivers must b older tha the moun tains themselves The flowe *across* th fold, and as the mountain slowly aro above the plain, the river cut it dow thus *gapping* the mountain ridge.

THE HUDSON RIVER, NEW YORK.

The Delaware *gaps* the Appalachian Mountains. The Potomac *gaps* the mountains at the place where you see the rapids in the picture. Can you tell from the picture on page 84 in which direction the Potomac is flowing? The mountains must have been a long, long time in forming, to have given the river time to cut through.

There are rapids usually in a river where it cuts across the highlands. They are formed by the water flowing over the rocky ridge which has not yet been cut to the bed level of the river.

A CITY ON A FLOOD-PLAIN, GERMANY.

If you build up a highland and make a plain on the sand table or in the schoolyard, and sprinkle it with water, you will see that the water will cut its way directly down the highland by the shortest way to the lower land. On the plain it will work its way down the slight slope, making many urves.

A MINING TOWN BUILT ON THE FLOOD PLAIN OF A RIVER IN THE ROCKY MOUNTAINS.

In the same way a river cuts a more direct course among the highlands because of the rapidly sloping land. In the flood-plains, which are nearly level in many places, it loses the power given by the slope; so it flows in and out in *long, swinging curves.* Trace these curves or *ox-bows* in the pictures.

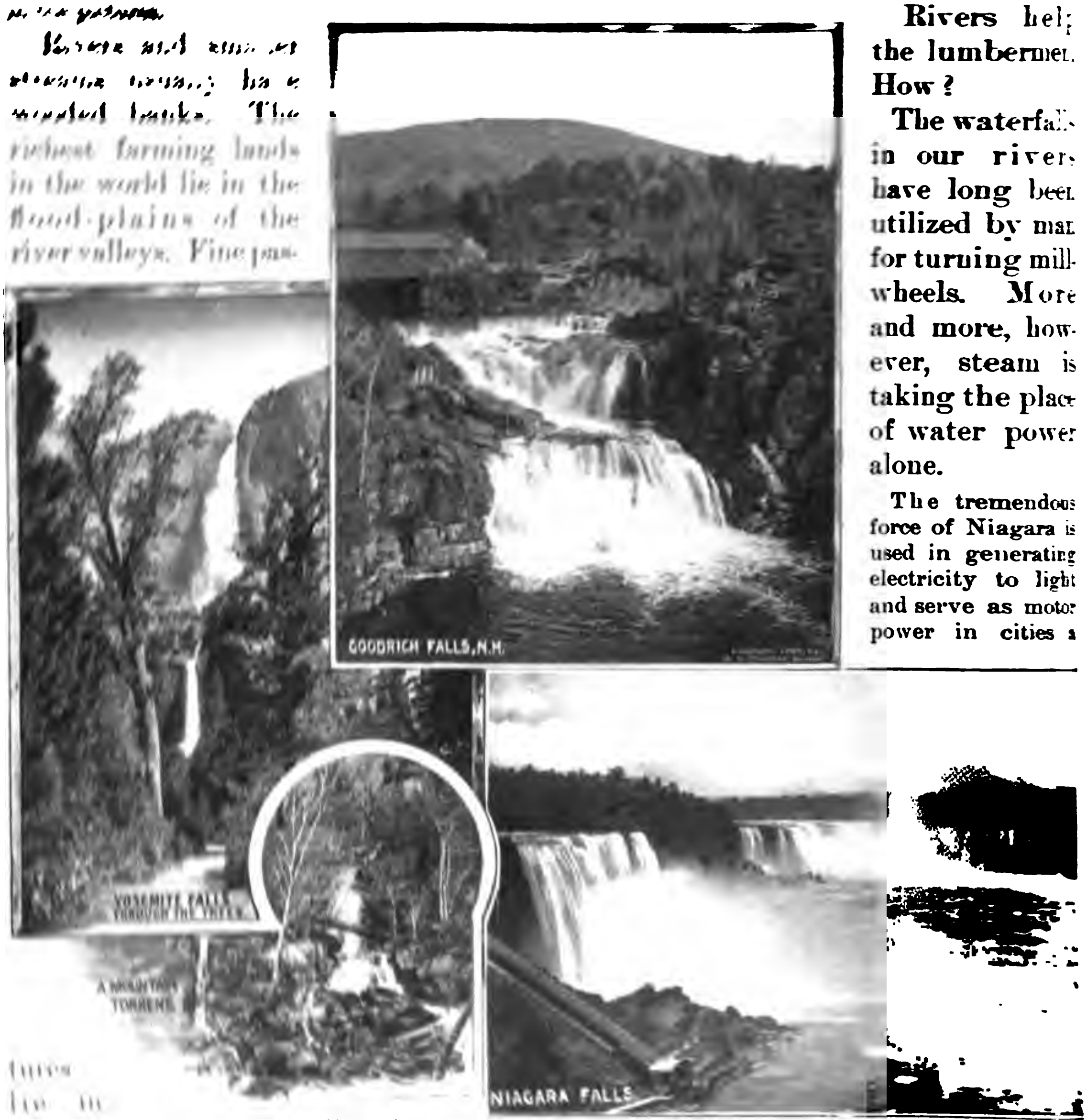
If you observe two bicycles go around a curve you will see that the one on the outer curve turns around more times in going around than the one on the inner curve. Can you think why? If you throw some shavings into a stream you will see that the water flows much faster on the outer curve than on the inner. This causes the water which is moving so swiftly to cut away the bank on the outer curve, while it helps the slowly moving water on the inner curve to deposit the soil which it carries. See the picture of a mud plain on page 83.

Rivers often cut deep *gorges* in the rocky surface where there are few feeders to widen the valley. Describe the gorge in the picture on page 83.

In countries where the weather is usually dry the river valleys are not widened as rapidly as in [illegible] The rivers [illegible] gorges [illegible] western United States. [illegible]

Rivers and [illegible] flowing through [illegible] have wooded banks. The richest farming lands in the world lie in the flood-plains of the river valleys. Fine pastures lie in the higher land of the valley slopes. Great cities or trading centers are upon the rivers. These are connected by railways and boats, which serve as outlets for the products of the great farming districts.

Canals are usually made around falls and rapids. This enables boats to have a continuous line of transportation and lessens the expense of shipping. How?


GOODRICH FALLS, N.H.

YOSEMITE FALLS THROUGH THE TREES

A MOUNTAIN TORRENT

NIAGARA FALLS

Rivers help the lumbermen. How?

The waterfalls in our rivers have long been utilized by man for turning mill-wheels. More and more, however, steam is taking the place of water power alone.

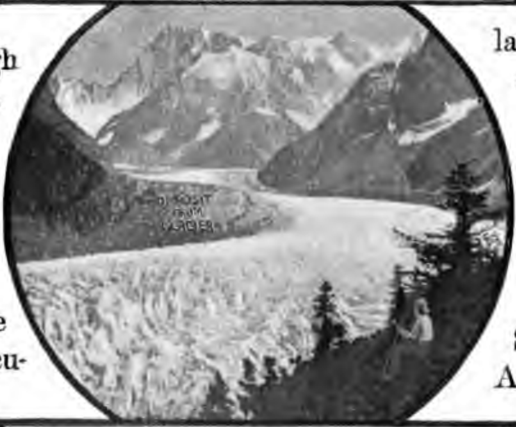
The tremendous force of Niagara is used in generating electricity to light and serve as motor power in cities a long distance from the Falls. Niagara Falls are one of the wonders of the world. The American Fall on the left of the picture is about 165 feet and the Canadian Fall is about 150 feet high.

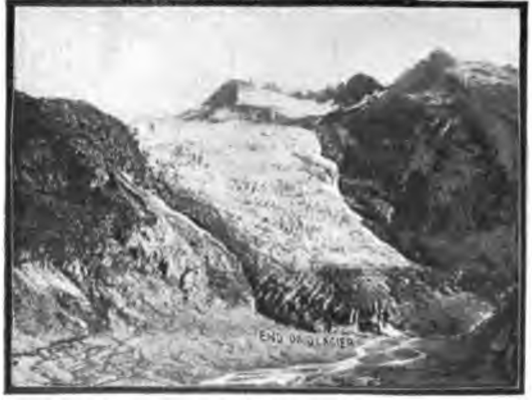
Carefully study and describe each of the pictures on this page. Observe how the water is wearing down the rocky ledge in the Yosemite Falls.

ICE RIVERS OR GLACIERS.

Many of the higher mountains of the world have *rivers of ice* flowing for some distance down their sides. You wonder how they are formed?

If you squeeze a snowball very hard and work it for some time with your hands, it becomes almost a ball of ice. This is caused by the pressure and warmth of your hands.





In mountainous localities where there is a great fall of snow, the snow does not all disappear through the summer months. More snow falls each winter for several years than can melt during the summer, so that the depth is constantly increasing. The great weight of this accumulation, together with the heat from the sun's rays, causes the snow to change to ice. This ice forms into streams which move slowly down the mountain sides.

Ice streams tear up trees, plants, and soil, and break off large rock masses in their descent. They carry these in the ice to lower, warmer sections, where the ice melts, leaving the rock fragments and other material strewn over the ground. Large rivers full of fine soil come from these ice streams. The soil is carried to the flood-plain or to the sea. Many *gravel* and *sand hills* are formed by the material brought down by these rivers. (P. 88.)

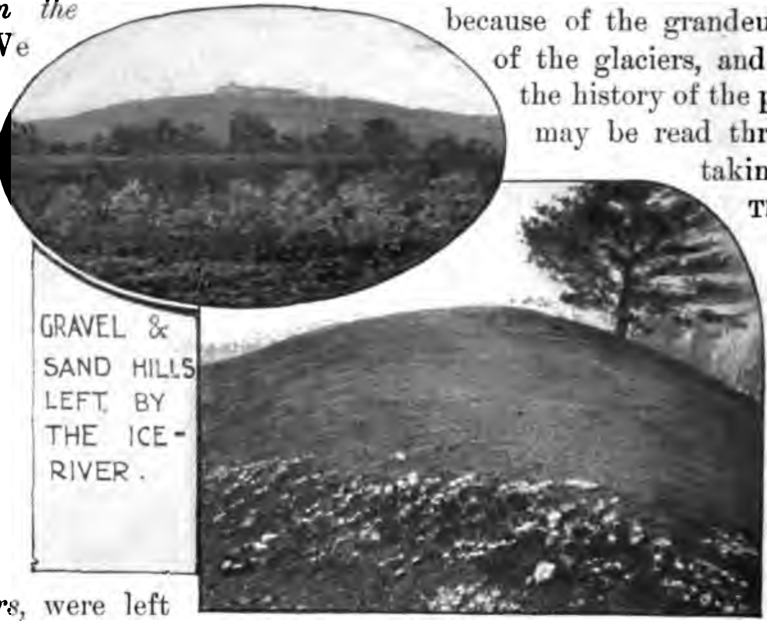
Rains wash the sand from these sand hills to the lower land, covering it with a sandy, barren soil.

Glaciers, or ice rivers, are in Alaska, Greenland, western Canada and United States, and on the mountains of Europe, South America, and Asia.

There was a time in the Earth's history when the cold belts extended much farther towards the Equator than at the present time. After many, many years there was a great accumulation of snow. Through pressure and heat this snow changed to ice, and moved slowly down the slopes in streams, or spread out on the plains in a broad, continuous sheet of ice. This ice sheet covered all of the northern parts of North America and Europe,

extending across the continent of North America in a westerly direction from New Jersey.

How do we know that there were once ice-sheets in the world? We know this because of the great amount of material which was left when the ice was melted by the warmer weather. Large pieces of rocks, which we call *bowlders*, were left strewn over the surface at this time.


GRAVEL & SAND HILLS LEFT BY THE ICE-RIVER.

Do you know of any bowlders in your school district?

In some cases the valleys were filled and the mountains completely buried by this material. Some of our plains and prairie land were made in this way. The soil of the areas formerly covered with ice is quite different from that of other sections.

THIS ICE RIVER FLOWS TO THE SEA.

Many *lakes* lie in the depressions made by the old ice rivers as they gouged their courses down the mountain side. Many people visit the regions where the ice rivers and ice sheets now are. They do this because of the grandeur and beauty of the glaciers, and also because the history of the past conditions may be read through what is taking place to-day.

The ice from some of the glaciers to-day is utilized by man as an article of trade. Men cut it into blocks and transport it to cities, where it is sold to supply people with ice during the summer months.

When the ice river descends to the sea the weight of the ice, together with the pressure of the water underneath, causes great masses of ice to break off. These are *icebergs*. They float away, and are dangerous to steamers and boats because of their great bulk. (P. 117.)

Describe each of the pictures. Note the great chasms or gorges in the ice which make traveling over the glaciers very dangerous. Visit sand hills, clay beds, and bowlder-strewn surfaces. Learn all you can about them. Describe and sketch them.

LAKES AND PONDS.

Here is the picture of a *lake*. It lies n the lowest part of a hollow in the and surface high up in the mountains. The entire hollow is a *lake basin*.

The lake is fed by the streams which form from the rains and meltng snow, and low down the nside slopes of the basin.

The land which borders the water of a lake is a *lake shore*. The *shore-line* is the line where the land slopes under the water. The higher and lower land of the lake shore causes many irregularities in the shore-line. In places where the shores are high the land *projects* out into the water; in places where the shore is low the water flows over the land, making *indentations* of the lake into the land.

A MOUNTAIN LAKE.

If you could look down on this lake you should see its true shape or *map*. Trace the shore-line of the lake pictures. Tell where there are projections and indentations. Model this lake-basin. Tell which part is occupied by the lake. Represent the streams which feed it.

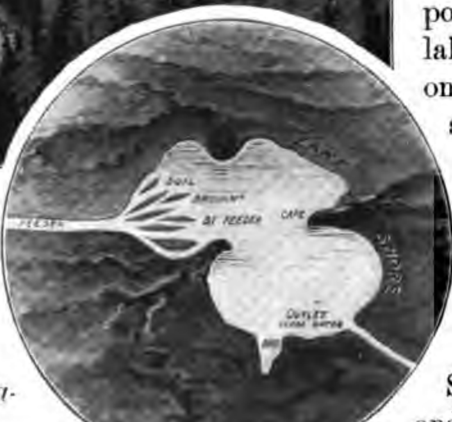
On the next page is the picture of a lake which lies in a basin in the lowland.

Tell how this lowland lake basin differs from the mountain lake basin. Trace its shore-line. Tell what plants are growing on its shore. What evidences of life are there?

On the next page there are pictures of *ponds*; one is in the mountains, and one is in the lowlands.

Trace around each. Trace the slopes of each. What evidences of life are there in these pictures?

You see ponds are like lakes in form, only they are smaller.



MAP OF A MOUNTAIN LAKE.

All LAKES *and* PONDS *are fed by streams and springs.* Some lakes and some ponds have only one large feeder.

Lakes and ponds usually have OUTLETS *which carry the water away from them to lower land and to the sea.*

The feeders are usually *muddy*. This is because they carry a great deal of soil. They carry much more soil during heavy rains or melting snows than at any other time. The dirt or soil is washed from the mountain sides as the streams descend to the lake. This soil settles in the bottom of that part of the pond or lake which is nearest the entrance of the stream.

Streams continue to carry soil to the pond or lake until it is filled up. It first becomes swampy, and then a solid, *fertile plain*. Such plains are usually drained by one or more streams.

A LOWLAND LAKE.

A MOUNTAIN POND.

A LOWLAND POND.

All the lakes and ponds of the world are filling up.

We can find old lake bottoms in almost any locality. Observe the pictures on the next page. Both are fine illustrations of a lake basin in the process of filling. You see the village is built on the mud plain.

During flood-time the hollows occupied by the lakes and ponds are completely filled with water. The water often reaches far up on the shore. In the highland region the basin overflows at its lowest point and the water flows away to lower land. The water from the lake in the lowland spreads far out over the low-lying land.

When the flood subsides, the water is left standing on the lowland. It gradually dries up, leaving a rich plain. Many farms lie on the slopes and in the plains of old lake bottoms. Describe the two scenes on this page.

A VILLAGE ON A MUD-PLAIN

Take a walk to the nearest pond or lake. Find all the forms spoken of in this text. Model the pond or lake in sand; sketch it and name all the parts.

Some lakes are very large. Steamers and many kinds of vessels sail upon them. These vessels carry people, and all kinds of merchandise for trade. See the kind of vessel used on the Great Lakes of United States on page 65.

Severe winds often blow across the lakes and beat the water into great waves which are dangerous to shipping. When the wind blows in the same direction for several hours it washes the sand from the lake bottom high up on the shore. It then blows the sand into heaps resembling snowdrifts. It sometimes blows the sand-laden water in such a way as to form long *sandbars* in shoal water.

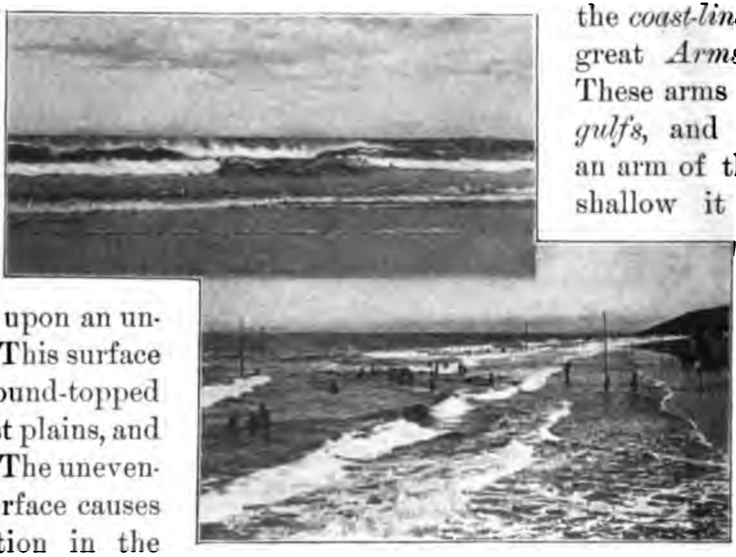
Some lakes have no outlets. The water of such lakes disappears through evaporation. After many years these lakes become *salt*. Great Salt Lake in United States, and the Caspian Sea in Asia, are good illustrations of salt lakes. There are thousands of beautiful lakes in many parts of North America and Europe. Many people visit, or live upon, their shores during the summer months. Why?

RICH FARMING LAND IN OLD LAKE BASIN.

THE OCEAN.

The ocean occupies the great depressions or basins in the land surface of the earth.

If we could look into its depths we should find that this great body of water rests upon an uneven surface. This surface consists of round-topped mountains, vast plains, and deep valleys. The unevenness of this surface causes a great variation in the depth of the water. In some places the ocean is very shallow or *shoal;* in other places it is deeper than the height of the highest mountains.



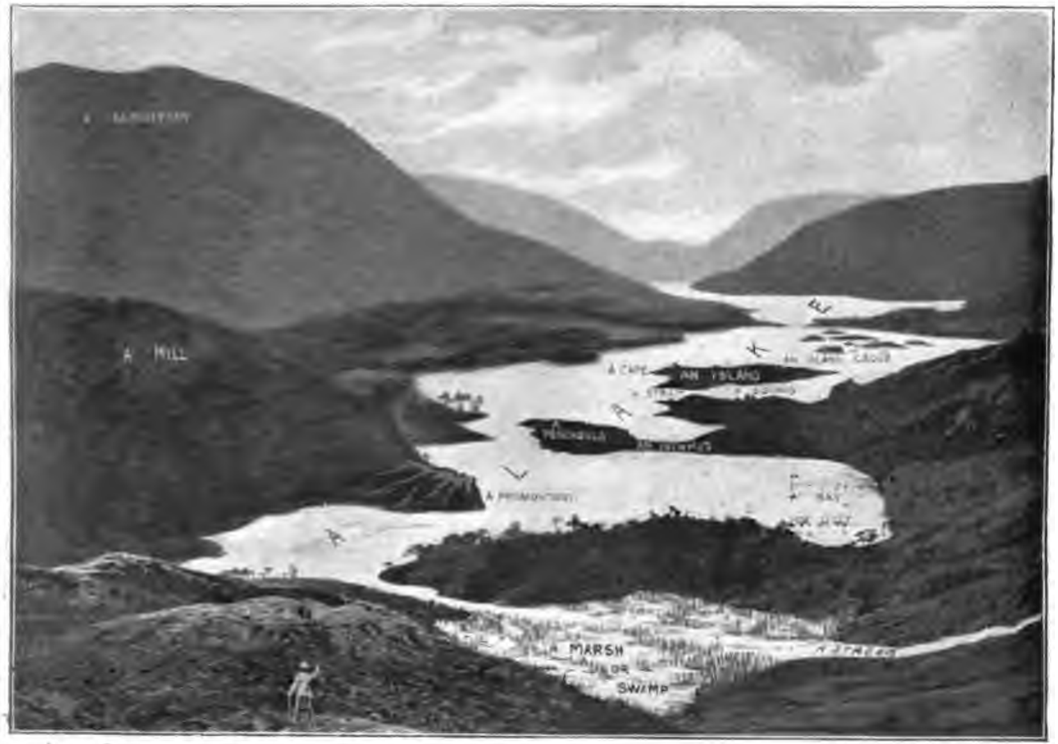
SHOWING HOW WAVES COME IN ON THE BEACH.

As the lower parts of the land approach the sea, the water flows over them, forming *indentations* or *bends* in the *coast-line* and making great *Arms of the Sea.* These arms are called *seas*, *gulfs*, and *bays.* When an arm of the sea is very shallow it is called a *sound.*

The land often almost closes the bay or gulf from the ocean, allowing only a narrow passageway for the water to flow through. Such a passage is a *strait.*

The higher parts of the land on all

coasts and shores extend out into the water, forming *projections.* These are called *peninsulas, capes,* and *promontories.* A peninsula is often joined to a larger body of land by a long, narrow neck of land, called an *isthmus.*



LAND AND WATER FORMS.

Find an isthmus in the picture. How is a cape different from a peninsula? Peninsulas have capes upon them. Find them in the picture. Tell how the peninsulas in the picture differ from the islands.

A *promontory* is a high, rocky cape.

Study and describe each of the land and water forms in the picture. Go out directly after a rain and find all of these forms. Find them on the nearest body of water. Model and sketch each. Bring in pictures of land and water forms. Find all of these forms in the world pictures and on the globe.

WAVES. — *Waves are surface movements of water caused by the wind.*

We find waves on all bodies of water having any extent. On a still day the water that we see may be very smooth and calm, but the ocean is so vast in extent that some parts of it are always being disturbed by winds. Any disturbance of its surface waters stretches out over a great distance. This is shown by the great variation in the height and in the more rapid movements of the waves as they come tumbling over each other upon the shore. (See page 92.)

While waves may be apparently

swinging backward and forward with little progress, their movement is always forward. They sometimes travel at a great rate of speed in the open sea. What would increase or diminish this rate?

A ROCKY CLIFF.

During a storm or high wind the water is lashed into great waves which sometimes rise thirty or forty feet. Such waves break upon the shores with tremendous force.

These waves carry large quantities sand and gravel which they have wash up from the sea bottom.

When they dash upon a rocky shore these sand-laden waves wear the rocks and break off great angular pieces which fall to the sea bottom near the shore.

In winter "Jack Frost," and in summer the rain and weather, help to break the rocky shores.

A PEBBLE-BEACH.

The continuous action of the restless sea, together with the grinding of one piece of rock upon another, break and wear the larger pieces into smaller and still smaller rounded fragments.

These water-worn rock fragments are pebbles.

The waves wash the pebbles up the beach, making a *pebble-beach.*

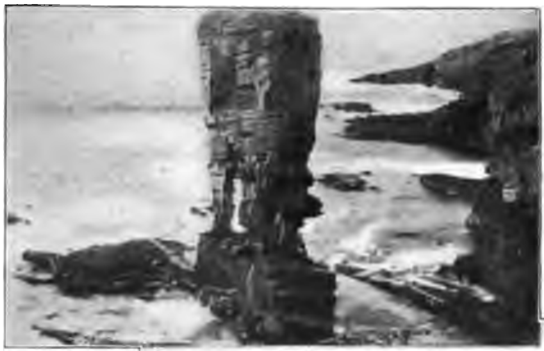
The continuous action of the water, and of one pebble upon another, wears the pebbles to sand and soil.

On sandy shores near shallow water this soil, together with the sand which as been brought to the sea by the ivers, is thrown upon the beach by the

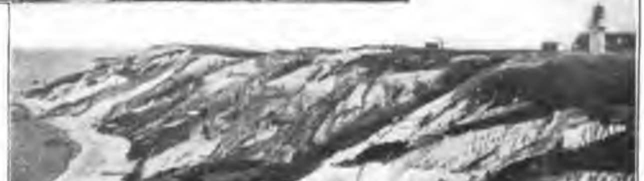
SAND-DUNES, CAPE COD, MASS.

ncoming waves. This soil is building ut the shore-lines and filling up the sea ottom. In some places the sand is washed nd blown bout into rifts and and hills. hese and drifts re called *and dunes.* The sand f these unes often blows bout and auses reat anoyance to people.

To prevent this hifting of the sand eople sow a coarse rass, the branching roots of which help to hold the sand in place. See picture on preceding page.



SHOWING RESULT OF WAVE ACTION ON ROCKY SHORE.



CLAY CLIFFS, GAY HEAD, MARTHA'S VINEYARD, MASS.

Describe the pictures on this page. The lower one represents clay cliffs, which are very high, and consist of clay of many colors. How are clay cliffs affected by the action of the waves? How are they affected by the weather? What can you tell us about clay? (Page 69.)

How will the coast or beach near such cliffs differ from other beaches? Observe how the soft part of the rock in the middle picture has been worn away, leaving the hard rock.

Some beaches are of smooth, hard-packed sand. They are fine *bathing resorts* and *promenades.*

I. BATHING, NARRAGANSETT PIER, R. I.
II. PROMENADE, BEACH AT CONEY ISLAND, N. Y.

Many people spend their summers at the seashore. Many large cities are on and near fine beaches. On hot days and evenings, crowds of city people with children go to the beach to get cool.

Do you know of any beach? If you do, tell about it. Do you know of any people who go to the seashore for the summer?

TIDES.—*Another movement of the water of the ocean is called the* TIDE. *For a little more than six hours the water slowly rises on the beach, when it reaches* HIGH TIDE. *Then for another six hours it slowly falls to* LOW TIDE.

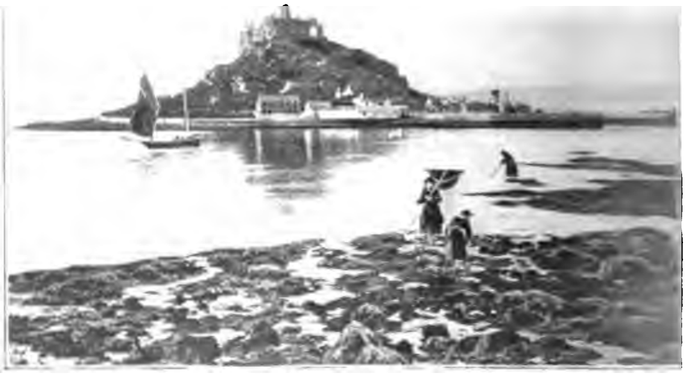
How many times does the tide *flow* and *ebb* in twenty-four hours, or a day?

How many of you have seen the flow and ebb of the tide? What effect has the high tide on the beach in the picture below? What effect has the low tide on the beach in the picture on the next page? Note the seaweed that has been washed up by the tide.

Sea food, such as oysters, clams, escallops, and crabs, are more easily procured during low tide.

HARBORS.—The ocean has become the great thoroughfare for trade and travel. On its waters vessels laden with merchandise and people from every country, pass to and fro. Under its waters the telegraphic cable extends which connects the great cities of the world.

All vessels must anchor in some arm of the ocean, where they are protected from fierce winds and storms. In such havens they can easily discharge and take on passengers, supplies, and freight. Such an arm is a *harbor*. The best harbors have deep water and moderately high shores. The wide, deep mouths of rivers form fine harbors. Wooden and stone piers are constructed to enable



HIGH TIDE, ENGLISH COAST.

LOW TIDE, ENGLISH COAST.

SOUTHAMPTON HARBOR, ENGLAND.

the cargoes to be directly discharged upon the shore. In places where the water is shoal these piers extend out for a long distance into the water. On coasts where there are no good natural harbors, they are made by building long sea walls out into the sea. These walls break the force of the waves.

The entrance to some harbors is shallow. Vessels are obliged to wait outside of such harbors until the full tide, in order to pass in with safety. For the same reason the vessels wait inside the harbor for high tide before sailing.

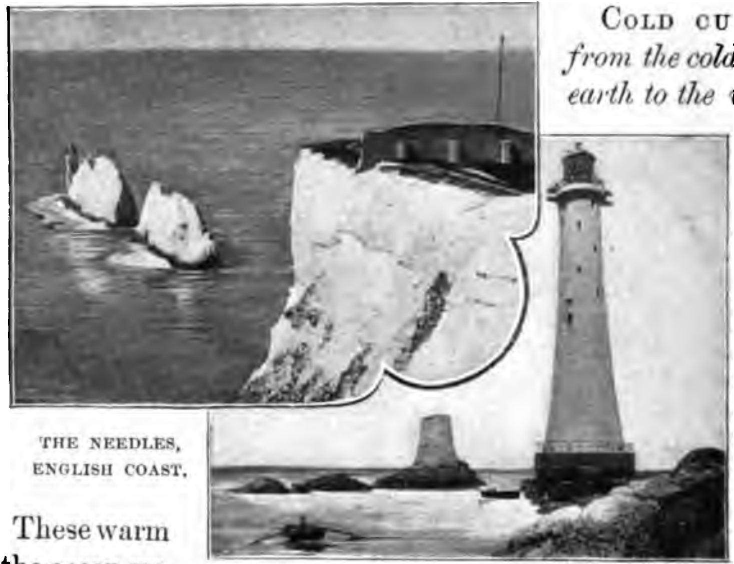
LIGHTHOUSES.—When rocky land projects out into any water near the course of vessels, or when the water is shoal, it is necessary to prevent the vessels from striking the rocks, or from running aground. *Lighthouses*, which are towers with strong lights, are placed on all such coasts and islands. The lights shine far out to sea and guide the vessels at night.

Vessels called "light-ships," carrying brilliant lights, are often moored off shoals or dangerous reefs to warn mariners at sea. *Buoys* are also used to point out the position of something dangerous beneath the water and to di-

PROVINCETOWN HARBOR, CAPE COD, MASS.

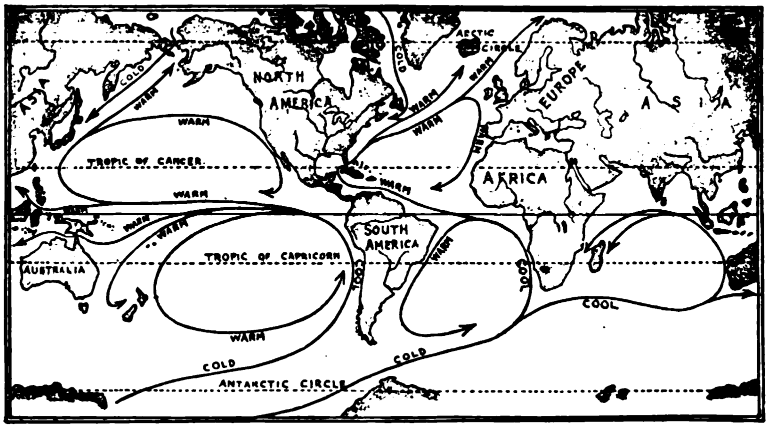
rect the course of vessels in the channel. Lighthouses and light-ships are in charge of special government officers.

Rivers or Currents in the Ocean.—*Great* **rivers** *or* **currents** *of warm water flow from the hot section of the earth toward the colder sections.* These warm currents make the ocean water warmer in the cold sections. They also warm the shores of all land which is washed by them. They, therefore, make it possible for more plants and animals to live in the water and on the land of the cold countries than otherwise could live there.

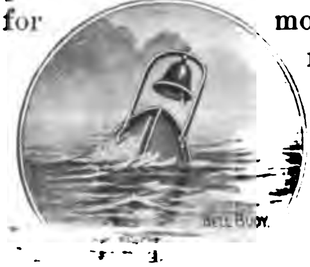


THE NEEDLES, ENGLISH COAST.

LAND'S END, ENGLISH COAST.



RIVERS OR CURRENTS IN THE OCEAN.



Trace the warm currents in the illustration. Tell which shores of the continents are affected by them.

Cold currents *flow from the* ***cold regions*** *of the earth to the* ***warm regions.***

The cold currents cool the heated land surface and warmer waters, making a more even temperature.

Trace the cold currents. Tell what continental shores are affected by them.

In this interchange of the hot and cold currents the life of the world has been strengthened. More animals, plants, and people can live in both the hot and cold sections.

Bring in pictures representing the ocean or ocean life.

All shore-lines are constantly changing.

The changes in shore-lines are caused by the flow and ebb of the tide, by the waves, by the currents, and by the fact that all the rivers are carrying great quantities of mountain waste to the sea. Some sections of the coast are slowly rising, thus pushing the sea back from the land. Other sections of the coast are slowly sinking, thus allowing the water to flow in farther on the land.

THE SEA.*

I am the Sea. I hold the land
As one holds an apple in his hand,
Hold it fast with sleepless eyes,
Watching the continents sink and rise.
Out of my bosom the mountains grow,
Back to its depths they crumble slow;
The earth is a helpless child to me.
I am the Sea!

I am the Sea. When I draw back
Blossom and verdure follow my track,
And the land I leave grows proud and fair,
For the wonderful race of man is there;
And the winds of heaven wail and cry
While the nations rise and reign and die,
Living and dying in folly and pain,
While the laws of the universe thunder in vain.
What is the folly of man to me?
I am the Sea!

I am the Sea. The earth I sway;
Granite to me is potter's clay;
Under the touch of my careless waves
It rises in turrets and sinks in caves;
The iron cliffs that edge the land
I grind to pebbles and sift to sand,
And beach-grass bloweth and children play
In what were the rocks of yesterday.
It is but a moment of sport to me.
I am the Sea!

I am the Sea. In my bosom deep
Wealth and Wonder and Beauty sleep;
Wealth and Wonder and Beauty rise
In changing splendor of sunset skies,
And comfort the earth with rains and snows
Till waves the harvest and laughs the rose.
Flower and forest and child of breath
With me have life—without me, death.
What if the ships go down in me?
I am the Sea!

—CHARLOTTE PERKINS STETSON.

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THE AIR.

Air surrounds us on all sides, although we cannot see it.

Mankind, animals, and plants depend upon it for the "breath of life." If there were no air, or *atmosphere*, surrounding every part of the earth, there could be no living thing upon it.

Air is made up of several *gases* and *vapor of water*. We will only speak of the two more important gases and the vapor of water, because our lives depend more upon these.

THE ATMOSPHERE SURROUNDS THE EARTH.

The principal life-giving gas is OXYGEN. It is given to the air from all plant life. People and animals would suffocate if it were not for the oxygen which they breathe in, and which keeps their blood pure. Oxygen causes the burning of all substances. It also causes the rusting of iron and the decay of many substances.

CARBONIC-ACID GAS *is given to the air by all burning and decaying substances, and in the breath of all animals.*

It would kill all animal life and mankind if allowed to remain in the air.

A wise means was provided by our Creator for taking this gas from the air. Carbonic-acid gas is needed by all plant life. All vegetation breathes it in. The plants could not live without it.

Through this interchange of gases the air is kept pure for man and animals.

There is always a greater or less amount of VAPOR OF WATER *in the air which is also needed by all living things.*

How does the moisture get into the air?

The streets and all surfaces are said to "dry off" after a rain, but the moisture has not all soaked into the ground. It has simply disappeared. It has been absorbed into the air. It has been changed from water, which is easily seen, to vapor, which is unseen, by the process of *evaporation*. The mud-puddles will dry up faster on a warm day than on a cool day. This is because warm air will hold more moisture than cold air. The puddles will dry faster on a windy day than on a still day. On which day will more air come in contact with the surface of the water?

Water is evaporating all over the earth, giving to the air the needed moisture to support life.

Water evaporates faster in the warm regions than in the cold regions, although snow is always evaporating.

How does the water form to make rain?

Breathe on a cold mirror or glass. It is *misty*, in a room of ordinary warmth. Can you think whence the tiny drops of water or mist came? Bring in a pitcher of ice water. The pitcher "sweats." Where was the moisture that has gathered on the pitcher? Which was warmer, the mirror or your breath; the pitcher or the air in the room?

The air near the glass and that around the pitcher became cool. It could not hold the moisture, so it was deposited on the glass and pitcher.

Some clouds are very dark and seem full of water. They are *rain clouds.*

What do we mean by "a gray day"?

Observe the clouds closely. See if you can tell which are the rain clouds. What kind of clouds do you see low down in the sky at sunset? Through observation learn all you can about the different kinds of clouds.

WIND.—Move your hand rapidly in any direction. You have set the air in motion, and can feel a *breeze* or *wind.*

CLOUDS FORMING FOG IN VALLEY.

Plants cool more quickly than the air at night. The air which immediately surrounds them becomes cool and deposits *dew.*

Frost instead of dew is deposited when we are having freezing weather.

Whenever warm air filled with moisture comes in contact with cold air the vapor is changed. It is changed from vapor, which we cannot see, to a light, fleecy substance called *mist,* which we can see. This is the process of *condensation.* When this light, fleecy substance lies or hangs near the ground it is called *fog.* If it is high up in the sky it is called a *cloud.* When it is freezing weather the moisture in the clouds forms into *snow.*

WIND *is air in motion.*

All winds are named for the direction whence they come.

Observe from day to day, and several times each day, from what direction the wind blows. Which are the cool winds of your locality? Which are the warm winds? Which winds indicate storm? Which are the dry winds? Observe if the wind blows with considerable strength and speed, or *velocity,* or if it is a gentle breeze.

Keep a little notebook in which you record these observations and all other observations in regard to the weather.

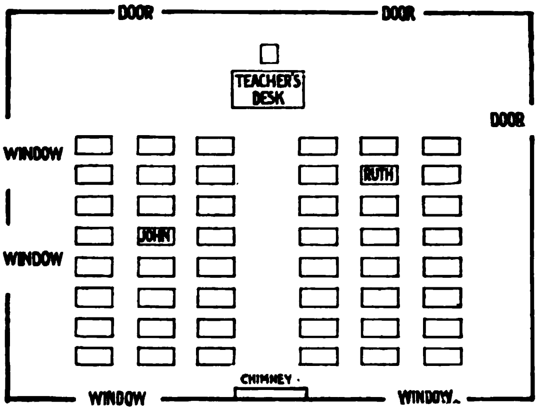
Winds from the colder sections blow over the land and sea of the warmer sections of the earth and modify the heat. Winds from the warm sections blow over the colder sections of the world and modify the intense cold to some extent.

PREPARATION FOR THE STUDY OF THE POLITICAL DIVISIONS OF OUR EARTH.

MAPS AND MAP READING.

(The measuring and drawing in these lessons should be a part of your number work; its application to the reading of maps should be in connection with Geography.)

About how far from you does your nearest fellow-pupil sit? Your farthest fellow-pupil? Your teacher? With your foot-rule measure the distance from your seat to other parts of the room.



A SCHOOLROOM.

Find the distance between objects in the room. Estimate given distances. Test by measuring. Measure a given number of feet north, south, east, west from some given object out of doors.

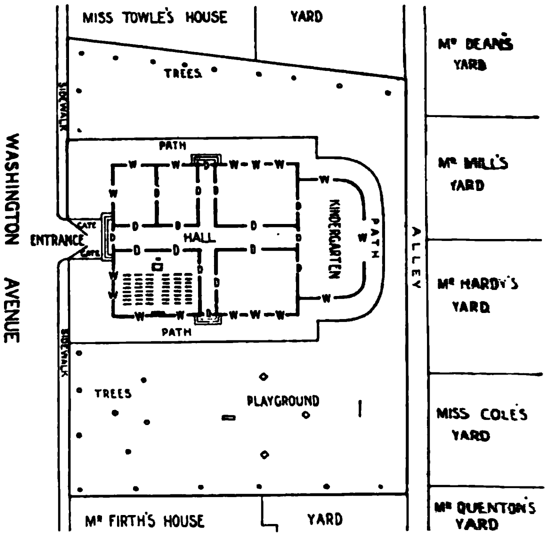
Measure a rod in the schoolroom, in the schoolyard, in the street. Find the number of yards and the number of feet in it. Pace it. How many paces do you make it? Find the number of rods in one mile. About three feet make a pace. How many paces in a mile? What persons live about a mile from the schoolhouse? What families live within the radius of one mile? Measure the distance between your home and the schoolhouse. Find out the distance in miles to the nearest village or city. Tell by what means you would go there. About how long would it take? Find distances to the next two nearest villages or cities. How would you go to them? Ask the distance to some large city of which you have heard. Think how long it would take to go there.

Find the number of inches in a foot, in a yard; the number of half-inches in a foot. State the number of quarter-inches in an inch, in a half-inch, in a foot, in a half-foot.

Find an eighth-inch on your rule. Make up questions about the eighth-inch. Find a sixteenth-inch on the rule. Ask the class questions about the sixteenth-inch.

Representation by Scale.—Measure the length and the width of your desk; the length and width of your paper. How can we represent the desk on this size of paper? We must draw it smaller, keeping the exact proportions. We will let three inches represent each foot. How many inches shall we make our representation in length? In width? Decide where it should be placed on the paper to look well, and give a reason for so placing. Place points according to scale to be used. Draw. Represent the rounded lower corners, the ink-well, and the groove according to location and scale.

Place points of direction on drawing. Lay it on the floor according to these points. Cut out the drawing. Hold it up so that north will be at the top. What is at the bottom? What at the right? What at the left? Paste the drawing upon a larger piece of paper so that north will be at the top, and south at the bottom. Rule a



SCHOOLHOUSE, YARD, AND BOUNDARIES.

double-lined margin. Decide where the name of the representation, the scale of measurement, and your own name should be placed to make a *well-balanced* sheet. When completed you have a *map* of your desk.

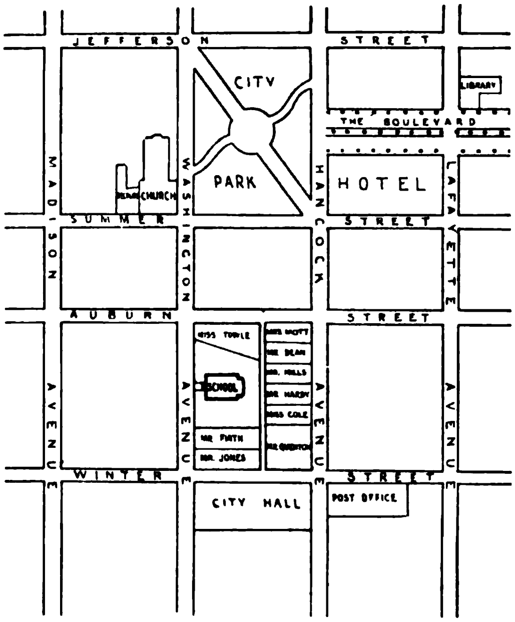
A MAP *is a representation of surface. North is always represented as at the top, south at the bottom, east at the right hand, and west at the left hand.*

REPRESENTATION OF THE SCHOOLROOM. Measure the length and the breadth of your schoolroom. Represent these measurements to a scale on paper. Measure the distance from each wall to the nearest corner desk in a straight line. Place the four points. Measure the length and breadth of floor space occupied by pupils' desks. Place points and sketch in light lines. Divide this space to represent aisles and desks. Measure the width of a single desk from left to right; of a single aisle. Measure the distance between desks and the width of a single desk from back to front. Find the number of aisles, the number of rows of desks, and the number of desks in each row. Decide the scale. Draw. Locate the teacher's desk; the doors and windows.

Place points of direction; also place a cross to indicate you own desk. If the room is regular in regard to the points of compass, finish the map on this paper; if it is irregular, cut it out and paste as you did the map of your desk.

SCHOOL-YARD.—Find the dimensions of the school-yard, the school-buildings, and the walks. Decide on the scale to be used. (It will doubtless be some fractional part of an inch to a yard.) Draw. Indicate location of different objects in the school-yard. Place points of direction. Indicate the boundary of the yard by naming the owners of the adjoining land.

SCHOOL DISTRICT.—Find out the dimensions of some part of your school district. Make a map indicating the principal streets or highways and the railroads; also the principal buildings in the district. Make up questions in regard to the location of different objects, buildings, homes, etc., for the class to answer.



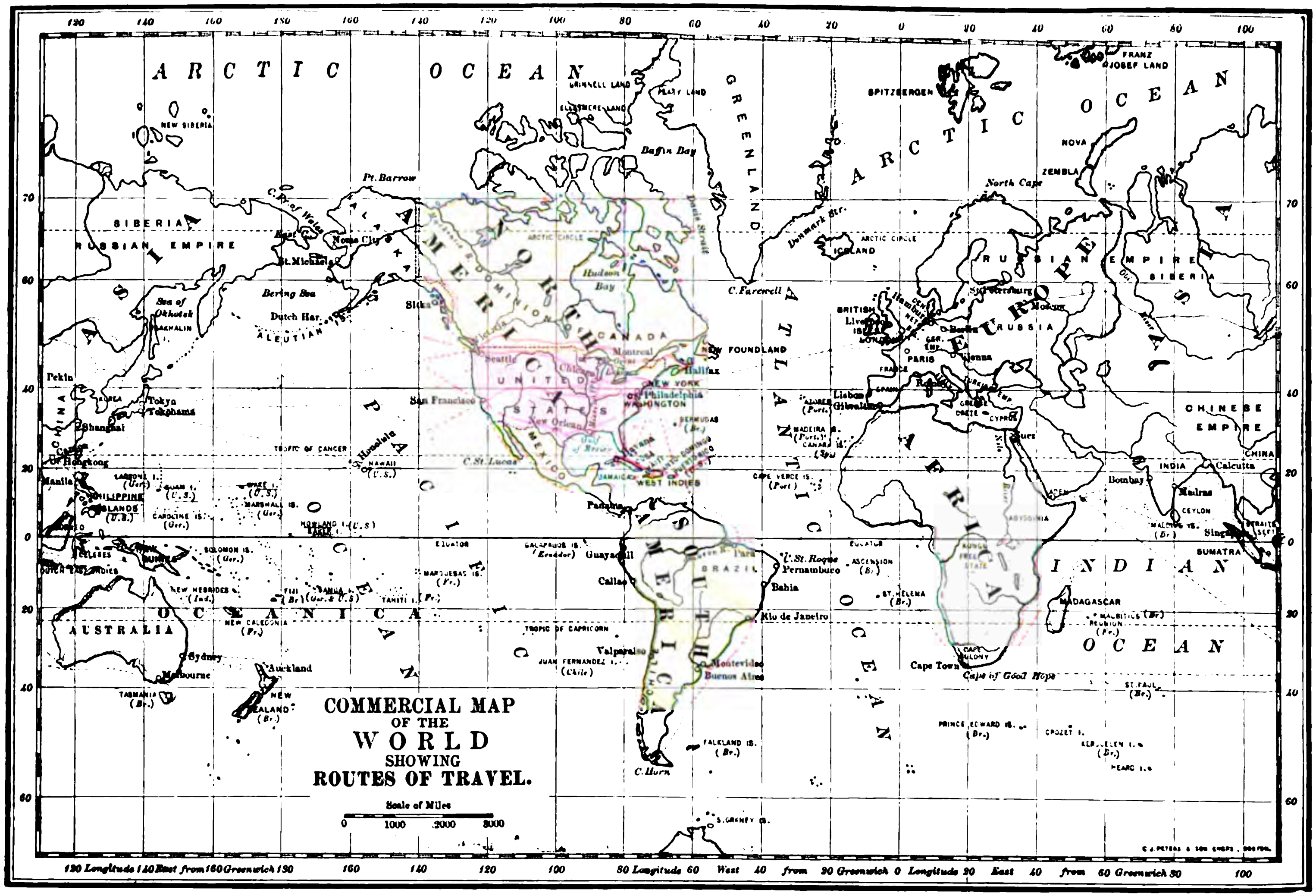
A PORTION OF A SCHOOL DISTRICT.

Turn to the *maps* of the *grand divisions.* Tell what constitutes a *physical* or *relief map.* What does it tell that the other maps do not? How are the highlands represented in these physical maps? The lowlands? The mountain ranges? The rivers? The lakes? Can you think why the peninsulas and capes are given in the physical instead of in the other maps? What is told in all political maps? The physical map represents *natural* boundaries. What do the political boundaries represent?

Make a map of some section of country in or near the neighborhood of your school. *How?* Make excursions at different times to the nearest hill, stream, pool, or pond. Find the points of direction. Decide what section you wish to map. Walk along the different boundaries. Sketch the map. Indicate any rise of land, stream, or body of water; also any highway, bridge, or other special features. If you want to be more accurate, take a measuring line and get exact dimensions. Place them on the sketch. The next day at school model the section in sand; sketch it on the blackboard, and finally draw a map to a scale. You can make a *physical* and a *political* map.

OUR GLOBE.

A GLOBE *is a map representation on a sphere of the principal physical features of our earth. It also represents the principal divisions, towns, and cities which have been made or built by men.*



COMMERCIAL MAP
OF THE
WORLD
SHOWING
ROUTES OF TRAVEL.

Find north, south, east, west, on the globe.

Globe Study.—Trace around the two continents; name the grand divisions of each; the isthmuses which connect any of them. Name any peninsulas or capes which you may find on the coast of either continent; tell where each lies. Find and locate each ocean. Name any seas, bays, or gulfs which you may find extending into any part of the coast; tell where each lies. Find one or more straits. Tell what bodies of land each strait separates and what bodies of water it connects.

THIS TREE IS NATIVE TO ASIA, BUT GROWS IN EUROPE AND NORTH AMERICA.

Trace the world-ridge on the globe. Tell of what mountain systems or ranges it is made up. Name any other mountain ranges that you may find. Name any peaks or volcanoes which you can find. How many river systems do you find in each grand division? How many single rivers? Tell which division of the ocean receives the greater number of them. Trace one river system and one or more single rivers in each grand division. Describe as you trace, and indicate the water-partings. Find any rivers which seem to have built out the land at their mouths on the coast.

Trace the two cold, the two temperate, and the hot belt on the globe. Tell in which belt you find the most land; in which the most water. In which do you find the greatest number of large cities? Why?

Find and locate each of the following countries in its grand division: United States, Canada, Mexico; England, Germany, France, Russia; Japan, China, India; Egypt, British South Africa. Find and tell in what country each of the following cities is situated: Washington, New York, Chicago, San Francisco; Montreal; Mexico; Rio Janeiro; London, Paris, St. Petersburg; Pekin, Bombay; Cape Town; Sydney. Tell what you think makes each of these cities of importance.

Note.—In connection with the study of the World, read of the early visits of the Norsemen from Iceland to the Western Continent. Also read of Marco Polo and the wonderful wealth which he secured in the East Indies, the island groups southeast of Asia. Find out what you can of Cortez; of Pizarro; of Magellan.

Marco Polo's travels created great interest among the nations of Europe, and several unsuccessful attempts were made to find the East Indies. (See Supplement.)

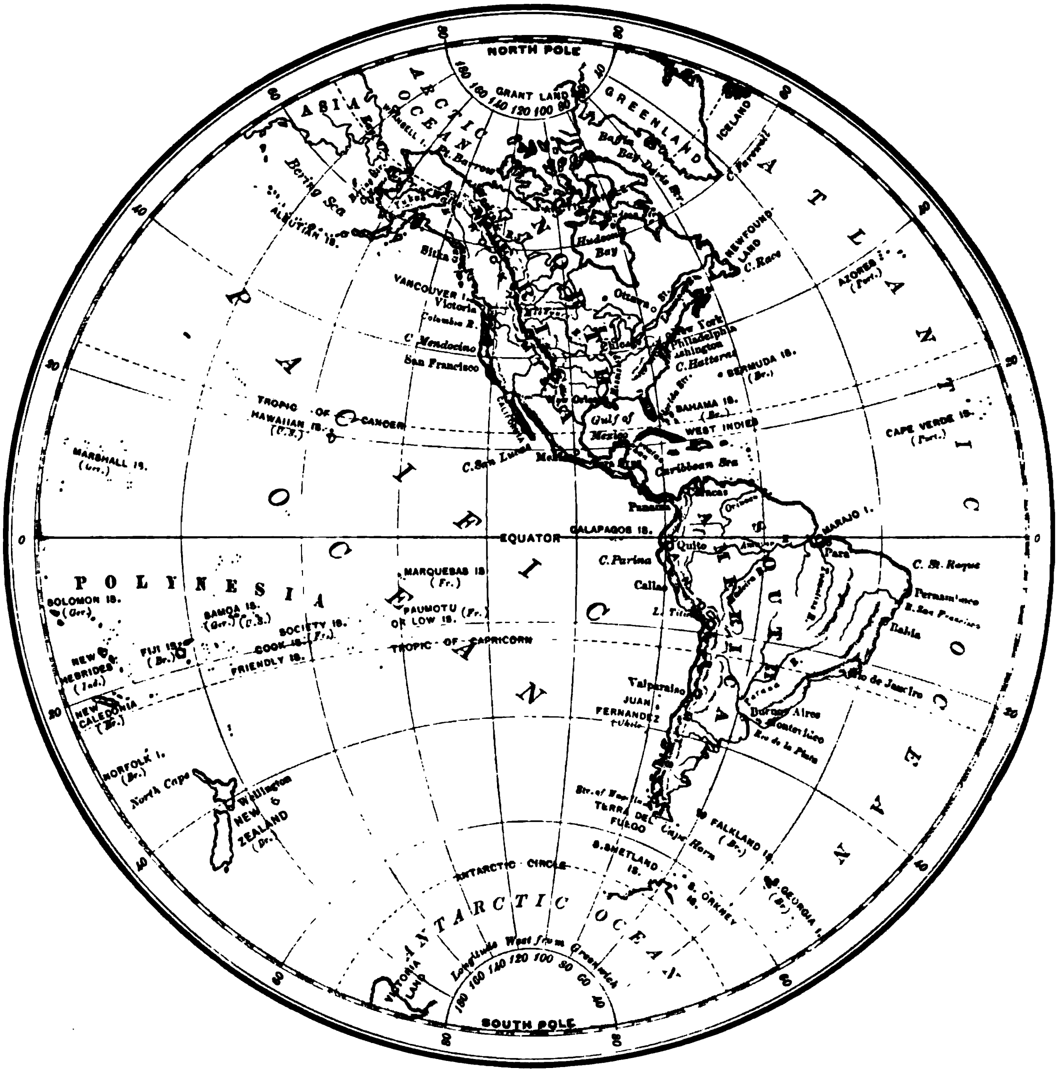
Find out what you can of the knowledge of people in regard to our earth at that time. What did Columbus think? What did he do? Tell all you can about him.

From the map on the preceding page trace the route of the Norsemen from northern Europe to Iceland and then to the land which was afterwards named North America. Trace a route from Europe to the East Indies. Trace the route of Columbus. Trace a route from London to New York across United States and the Pacific Ocean to the Philippine Islands and China. Trace and describe other routes.

All sections governed by our country, the United States, are colored the same in this map. Find and name them. From their location tell what some of their products must be. Trace routes of trade and travel between them all.

For convenience in study, maps of the globe are often made like the one on the preceding page. You see that the northern and southern parts are drawn too wide because the curve of the sphere is not taken into account. Compare it with the maps of the hemispheres on the following two pages.

THE WESTERN HEMISPHERE.



PART III.

POLITICAL DIVISIONS OF OUR EARTH.

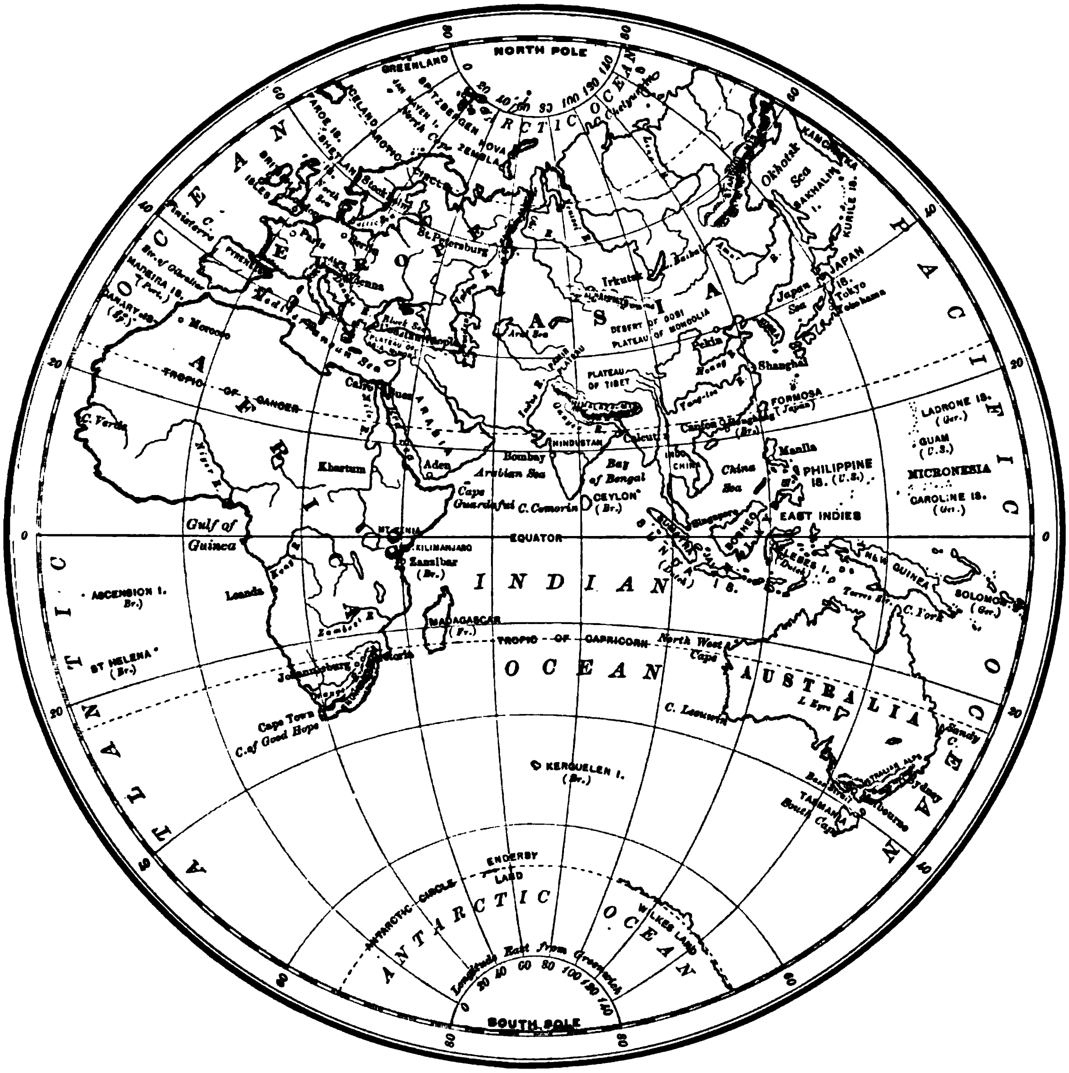
THE HEMISPHERES.

A HEMISPHERE *is half a sphere or globe.*

For convenience the line dividing the globe into hemispheres is drawn around the earth where there is the least land. This line divides the earth into the *Eastern* and *Western Hemispheres*. Trace the line on the globe. Tell at what points the continents approach nearest each other. What bodies of water separate them at these points?

Which hemisphere has more land? Which has more water? Commencing at the northern extremity of North America, trace the coast-line of the Western Continent. Name the most northern,

THE EASTERN HEMISPHERE.



eastern, southern, and western points of this continent. Trace, name, and locate three indentations in the coast of North America; one in South America; one between North America and Asia. Compare the two grand divisions of this continent by telling how they are alike; how unlike in shape and coast-line.

What island group southeast of North America? What one incloses Bering Sea? What island is northeast of North America? What one at the mouth of the St. Lawrence River? In what direction are the Hawaiian Islands from North America?

Trace the coast-line of the Eastern Continent. Tell what oceans bound it. Tell the most northern, eastern, southern, and western capes. By what seas is Africa separated from Asia? By what sea and strait from Europe? How is Africa connected with Asia?

Which of the two continents has the greater number of indentations? Which has the greater number of islands near its coast? Which division of the Eastern Continent has the most regular coast-line? Name and locate four indentations on the coast of Asia; one on the coast of Europe. Name an island group east of Eurasia; southeast of Eurasia.

Trace around the Australian Continent. Describe its coast.

Trace the highlands of the Western Continent. Tell what mountain system of North America and what one of South America comprise these highlands. From the direction of the rivers tell in what two general directions the land slopes in North America. Which slope contains the large rivers? Trace the Mississippi, the Mackenzie, the St. Lawrence. Tell in what direction and into what body of water each flows. Trace around a group of lakes in North America, and tell to what river system they belong. Trace three rivers which find their way to the Pacific. Compare their length with the length of the other rivers on the slope.

Trace the Amazon, the Parana, and the Orinoco Rivers. Tell which is largest; in which direction and into what each flows. What ocean receives them all? In what general direction does the greater part of the land surface of South America slope? What name is given the Parana at its mouth? Trace the Primary High lands of Eurasia and of Africa. From the courses of the rivers tell the direction of the long slope and of the short slope in these divisions.

PLANTS OF THE HOT BELT. THIS MANNA GROVE IS IN CUBA.

Trace the Yenisei, the Hoang, and the Ganges Rivers of Asia; tell the general direction of each and into what body of water each flows. What oceanic basins receive most of the rivers of Asia?

Trace the Volga and Danube Rivers of Europe; tell into what each flows. Trace the Nile and Kongo Rivers of Africa; tell into what each flows. What great oceanic basin finally receives most of the rivers of Europe and Africa? Which continent has no rivers of importance?

In what belts does the Western Continent lie? What is the prevailing weather or *climate* of different parts of this continent? Compare the northern and the southern parts of North America with the same parts of South America as to seasons. (Page 22.) In what belts does the Eastern Continent lie? Which belt contains the most land? The greater part of Eurasia lies in which belt? The greater part of Africa? In which belt is the northern part of Eurasia? The southern part? In which belt is the northern part of Africa? The southern part? How is the Australian Continent divided in regard to belts of climate?

Draw two circles; divide them into belts of climate according to illustration, page 20. Name one circle the Western and the other the Eastern Continent. Beginning with your home district in the Western Continent, name, locate, and print the principal plants and trees of the North Temperate belt. Also print the principal ones of the Eastern Continent in the North Temperate belt as you learned them in the study of Part I. Name, locate, and print those of the South Temperate belt in each continent. Name, locate, and print those of the cold belts, and then those of the hot belt, first those in the Western and then those in the Eastern Continent. Name as many plant products as you can. (See "Plants," Part I.)

Draw two more circles and print the names of the animals in the belts to which they belong, beginning with the North Temperate belt of the Western Hemisphere. (See "Animals," Part I.) Name as many animal products as you can.

Draw two circles and print the names of races and nations, industries and religions, where they belong. (See "People," "Occupations," Part I.)

Make a list of the cities you find on the maps of the hemispheres. Locate five in North America, three in South America, four in Europe, four in Asia, and two in Australia.

NORTH AMERICA, OUR GRAND DIVISION.

NOTE.—In the study of North America from the map, you should *trace* with a pencil or small pointer all coast-lines, land-forms, water-routes, mountain ranges and systems, rivers, and lakes.

In connection with this study you should read of the *discoveries* and *explorations* of North America by different Europeans. You should also locate the first *settlements* as far as possible.

You should either sketch maps, or have outline maps to fill in as you study them. You should mold North America in sand, either on the sand-board or table, or in the schoolyard.

Collect pictures of as many subjects as possible in connection with the study of North America. Arrange them neatly on cardboard for schoolroom, or on manilla paper for your own collection.

From the globe and maps tell the direction of North America from each of the other grand divisions. Point to each grand division and tell its direction from North America. Which grand divisions lie nearest to North America? Which are farthest away?

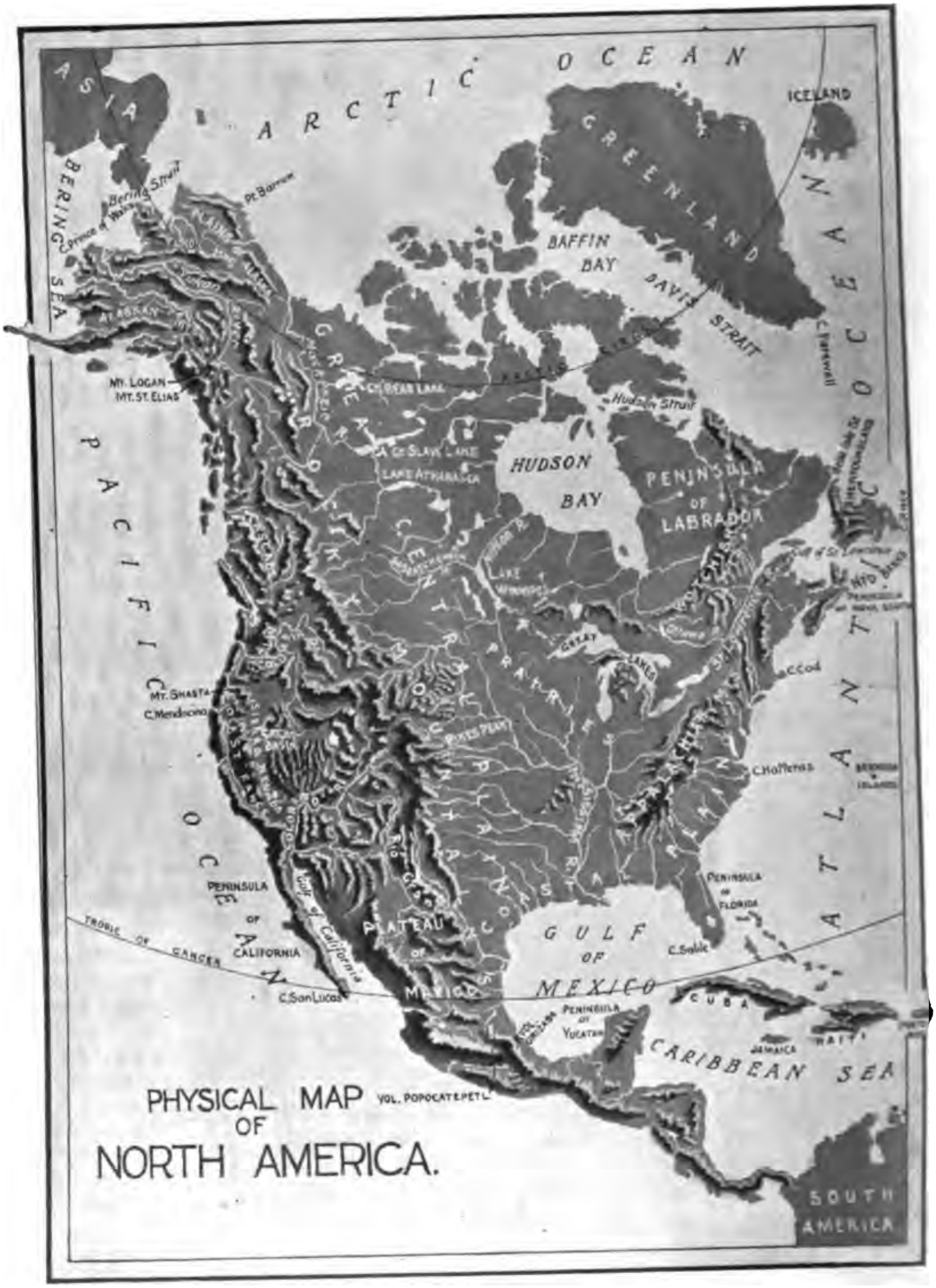
What is the general shape of North America? Which sides are nearly equal in length? Which side is longest? Trace the shape of North America in the air. Draw it quickly on the blackboard with the fewest possible lines.

A northern coastal plain, consisting of frozen swamps called *tundras*. No trees and few plants grow here. The lumber for the buildings was brought here by steamers from the great forests south of this region.

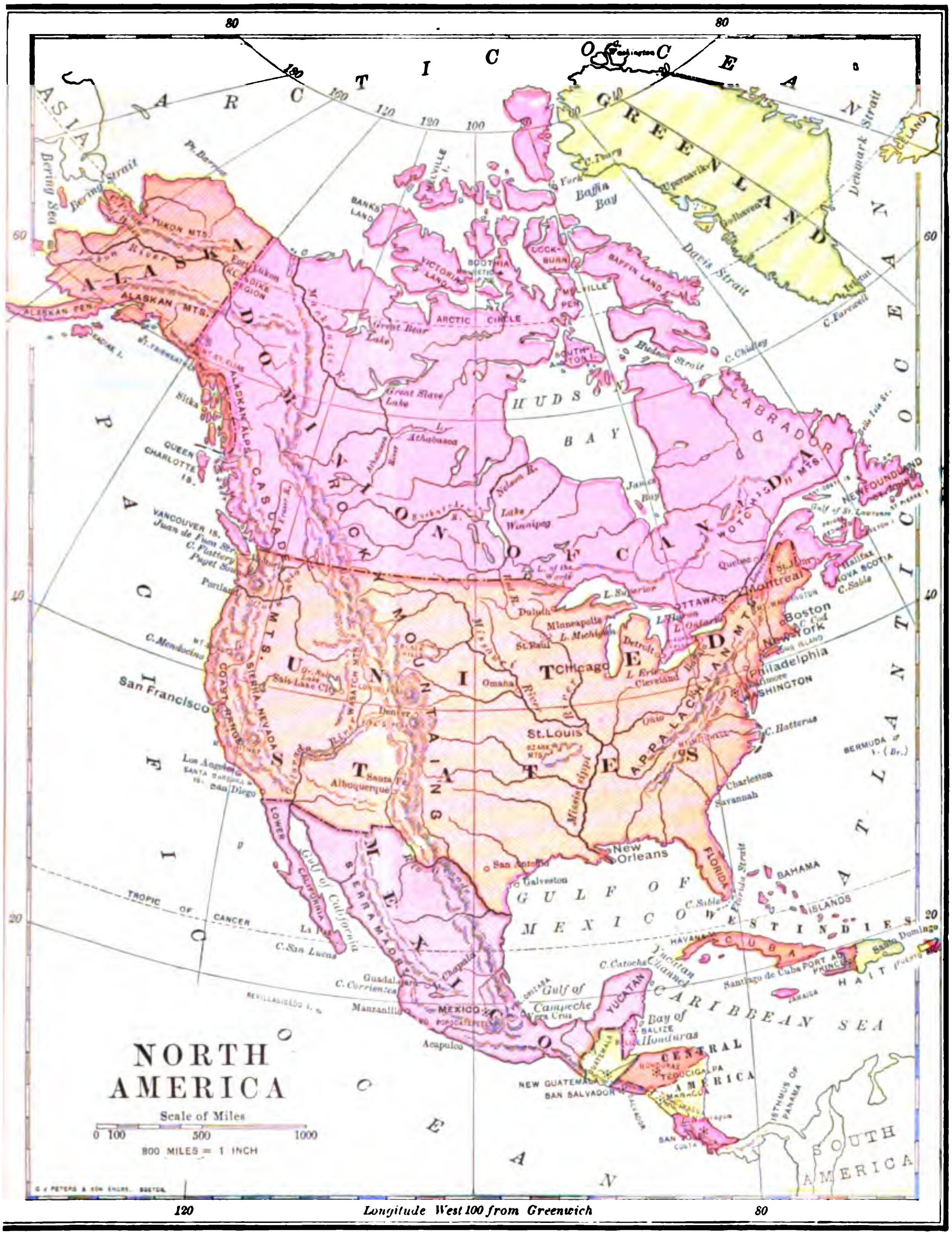
What large bodies of water lie around North America? Point to each. Tell the direction of North America from the Atlantic, the Pacific, the Arctic oceans. Trace the northern coast; what large body of water indents it? Through what strait would a vessel sail to reach the Atlantic Ocean from this bay? Through what bay and strait would a vessel sail from the Arctic Ocean to the Atlantic Ocean? Trace the eastern coast What three arms of the Atlantic indent this coast? What island nearly incloses the Gulf of St. Lawrence? Through what strait would a vessel pass from this gulf into the Atlantic? Trace the southern and western coasts. By what island and two peninsulas is the Gulf of Mexico nearly inclosed? Through what strait would a vessel pass from this Gulf to the Atlantic? What group of islands and grand division nearly inclose the Caribbean Sea? Through what channel would a vessel pass from the Gulf to the Caribbean Sea?

What three arms of the Pacific Ocean indent the western coast? Through what strait would a vessel sail from the Pacific Ocean to Puget Sound? By what group of islands is Bering Sea nearly inclosed on the south? What land nearly incloses it on the north? Through what strait would a vessel pass from Bering Sea to the Arctic Ocean? During the long winter this sea and strait are frozen over, and no vessels can pass through. Take an imaginary cruise around North America, and tell what bodies of water you would visit. What projections of land—peninsulas or capes—would you have to avoid? What are some of the different ways by which you would be warned of these points? (Page 97.)

Describe each of the following peninsulas by telling from what part of North America it projects and what waters nearly surround it: Labrador, Nova Scotia, Florida, Yucatan, California, Alaska. Which of these peninsulas do you think the most important to mankind? Why?



PHYSICAL MAP
OF
NORTH AMERICA.


NORTH AMERICA
Scale of Miles
0 100 500 1000
300 MILES = 1 INCH
Longitude West 100 from Greenwich
120
80
ARCTIC OCEAN
ASIA
Bering Strait
Bering Sea
Pt. Barrow
ALASKA
YUKON MTS.
Yukon River
Fort Yukon
KLONDIKE REGION
ALASKAN MTS.
ALASKAN PEN.
KADIAK I.
MT. FAIRWEATHER
MT. ST. ELIAS
Sitka
ALASKAN ALPS
QUEEN CHARLOTTE IS.
VANCOUVER IS.
Juan de Fuca Str.
C. Flattery
Puget Sound
Portland
BANKS LAND
VICTORIA LAND
MELVILLE I.
BOOTHIA
COCKBURN
MELVILLE PEN.
BAFFIN LAND
Baffin Bay
C. Parry
York
GREENLAND
Upernavik
Godhavn
Davis Strait
Denmark Strait
ICELAND
C. Farewell
Ivigtut
Great Bear Lake
Great Slave Lake
L. Athabasca
Athabasca River
Mackenzie R.
ARCTIC CIRCLE
SOUTHAMPTON I.
Hudson Strait
C. Chidley
HUDSON BAY
James Bay
LABRADOR
Nelson R.
Lake Winnipeg
Saskatchewan R.
L. of the Woods
DOMINION OF CANADA
ROCKY MOUNTAINS
CASCADE MTS.
Fraser R.
NOTCH HILL MTS.
Quebec
St. John
Montreal
OTTAWA
NEWFOUNDLAND
Belle Isle St.
Gulf of St. Lawrence
NOVA SCOTIA
Halifax
C. Sable
L. Superior
Duluth
Minneapolis
St. Paul
L. Michigan
L. Huron
L. Ontario
L. Erie
Detroit
Cleveland
Chicago
Boston
C. Cod
New York
LONG ISLAND
Philadelphia
Baltimore
WASHINGTON
C. Hatteras
BERMUDA I. (Br.)
APPALACHIAN MTS.
UNITED STATES
C. Mendocino
San Francisco
COAST RANGE
SIERRA NEVADA
Gt. Salt Lake
Salt Lake City
WASATCH MTS.
Denver
Missouri River
Omaha
St. Louis
OZARK MTS.
Ohio
Mississippi
Los Angeles
SANTA BARBARA IS.
San Diego
Santa Fe
Albuquerque
Charleston
Savannah
New Orleans
San Antonio
Galveston
FLORIDA
Florida Strait
BAHAMA
GULF OF MEXICO
WEST INDIES ISLANDS
HAVANA
CUBA
Santiago de Cuba
PORT AU PRINCE
HAITI
Santo Domingo
Porto Rico
JAMAICA
LOWER CALIFORNIA
Gulf of California
La Paz
C. San Lucas
SIERRA MADRE
MEXICO
Chapala
Guadalajara
C. Corrientes
Manzanillo
REVILLAGIGEDO I.
MEXICO
POPOCATEPETL
ORIZABA
Vera Cruz
Acapulco
Gulf of Campeche
C. Catoche
YUCATAN
Yucatan Channel
Bay of Honduras
BALIZE
CARIBBEAN SEA
CENTRAL AMERICA
GUATEMALA
NEW GUATEMALA
SAN SALVADOR
HONDURAS
TEGUCIGALPA
MANAGUA
SAN JOSE
COSTA
ISTHMUS OF PANAMA
SOUTH AMERICA
TROPIC OF CANCER
PACIFIC OCEAN
ATLANTIC OCEAN
C. J. PETERS & SON ENGRS. BOSTON
60
40
20
180
160
140
120
100

Describe the following capes by telling where each is situated and into what body of water it projects: Prince of Wales, Point Barrow, Race, Sable (N.), Hatteras, Sable (S.), San Lucas, Mendocino, Flattery.

Locate and describe the following islands and island groups, by telling near which coast of North America they lie and what waters surround them: Newfoundland, Long, Bahamas, West Indies, Vancouver, Queen Charlotte, Kadiak. Name four islands of the West Indies. What large island belonging to Denmark lies northeast of North America? What island east of Greenland, also belonging to Denmark?

GOING TO MARKET IN JAMAICA, W. INDIES.

A MARKET PLACE IN JAMAICA, W. INDIES.

These are typical scenes in the West India Islands. Describe them.

Which coast of North America is most irregular, thus affording the best harbors? Which part of the western coast is most irregular?

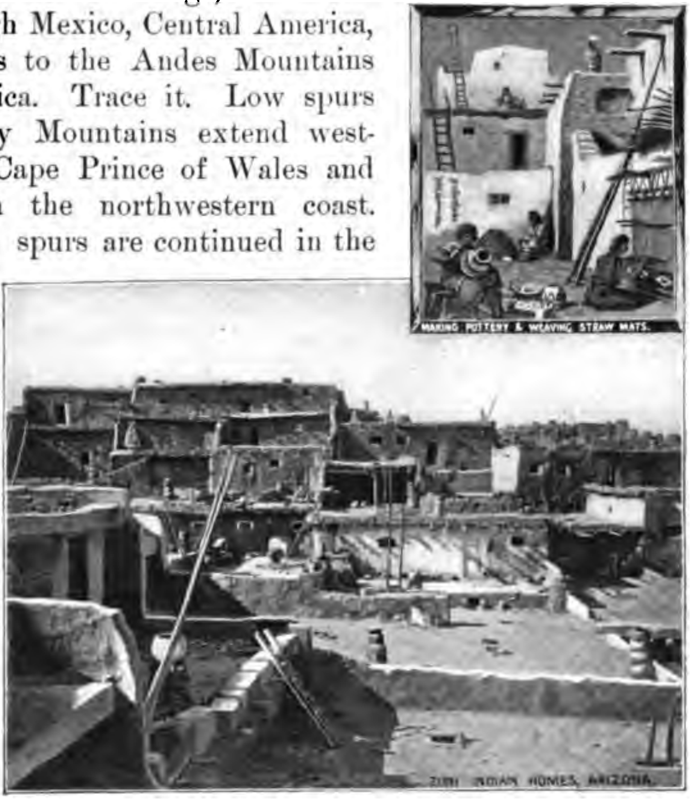
Trace the Primary Highlands of North America. Locate and tell in what direction they extend. Trace the principal rivers to the sea. Towards which ocean does the long slope of the continent extend? Towards which the short slope? What effect have the slopes upon the length and speed of the rivers? Trace the highlands in the eastern part; tell the direction in which they extend. Trace the streams carefully on the inner slope of both highlands. In the channel of what river do the inner slopes of the Pacific and the Atlantic highlands meet? Trace one eastern and three western tributaries of this river. Which is the largest? Place tissue paper over the Mississippi River system and trace it; indicate the water-partings. (Page 81.) What large river has a northerly course? It is of little importance to mankind. Can you tell why?

What large river cuts the Atlantic Highlands? What five lakes belong to this river basin and are drained by this river? Draw this river by tracing through tissue paper; indicate the water-partings.

What river cuts its way to the Pacific through the western highland? What one cuts its way to the Gulf of California? What large river flows into Bering Sea? Of all the rivers of North America which do you think are the most important for commerce? Why? Which do you think have more waterfalls, rapids, and high rocky banks? Which must have more ice? What two lakes are drained into Hudson Bay through the Nelson River? Trace the water-parting between the Hudson Bay Basin and the St. Lawrence Basin; between the Hudson Bay and Mackenzie basins; between the Mackenzie and Yukon basins.

The Primary, or Pacific Highlands of North America extend from Bering Strait and the Arctic Ocean on the northwest, along the western coast to the Isthmus of Panama on the southeast. They are highest in the Mexican Plateau, which is nearly 8000 feet above sea-level. From this plateau the highlands gradually descend northward to the Arctic Ocean and southward to the Isthmus. The highlands are widest in the United States, narrowing as they extend northward and southward. These highlands consist of two mountain systems—the Rocky Mountain System and the Sierra Nevada System. The

Rocky Mountain System occupies the eastern and greater part of the highland region. It is made up of many irregular ranges and peaks. The most important is the Rocky Mountain Range, which continues through Mexico, Central America, and the Isthmus to the Andes Mountains in South America. Trace it. Low spurs from the Rocky Mountains extend westward, forming Cape Prince of Wales and other points on the northwestern coast. These mountain spurs are continued in the Aleutian Islands and the mountains of Asia. (Pages 7, 9.)


MAKING POTTERY & WEAVING STRAW MATS.
ZUNI INDIAN HOMES, ARIZONA.

A *Pueblo*, or Indian Village, built of stone or dried brick. There are many such homes in southwestern United States and in Mexico.

The Sierra Nevada System lies near the coast and consists of the Cascade Range, the Coast Range, and the Sierra Nevada Range, from which the system is named. Trace each.

The Cascade and the Sierra Nevada ranges have many peaks of great height. Many of them were once volcanoes. The Coast Range consists of low foothills bordering the coast.

Between the ranges of the Rocky and the Sierra Nevada systems is a vast plateau region. This region is so dry that the people are obliged to *irrigate* the land for cultivation. (See next page.)

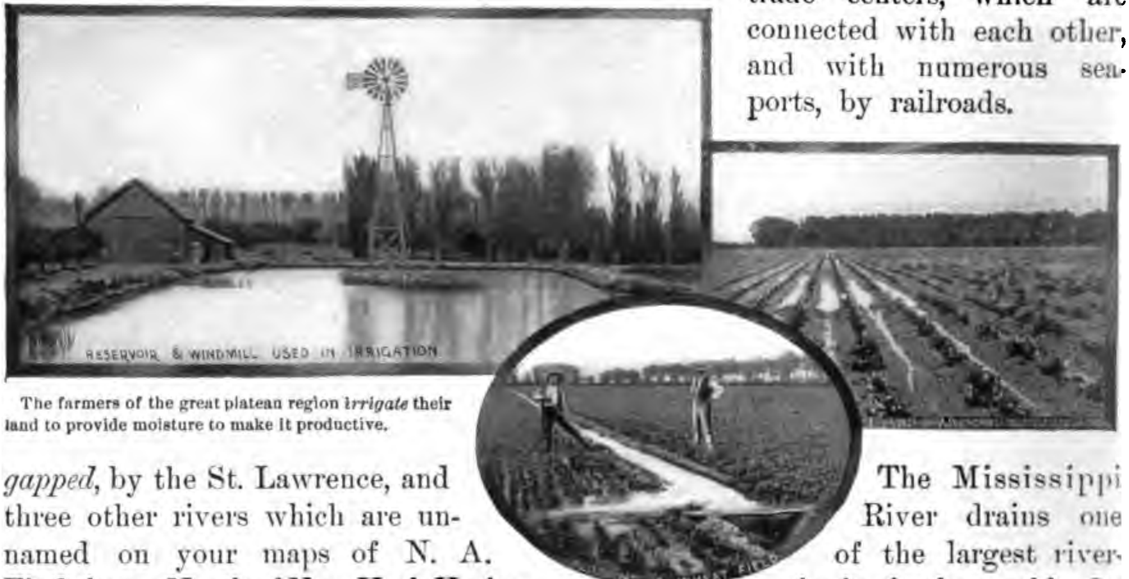
Irrigation **is the process of storing the rain which falls, or of turning the water of a river into great reservoirs, either to be pumped out on the land or let into ditches, as needed for watering the land.**

The Sierra Nevada Range extends along the western border of the plateau region into Mexico, where it takes the name of Sierra Madre. It unites with the Rocky Mountain Range at the volcano Popocatepetl, in the south-central part of Mexico.

The Primary or Pacific Highlands are comparatively young in the mountain history of the earth. They were thrown up into folds more recently than many other mountains of the world. We know this because of their great height and bare, jagged peaks. They were once much higher than at the present time; but the streams and the weather have been reducing them to a lower level. They have rich mineral deposits which have developed many mining towns and cities. Upon what other industries do these towns and cities depend?

The Secondary or Atlantic Highland, or Appalachian System, lies along the eastern coast, and extends from the Peninsula of Labrador southwestward to within three hundred miles of the Gulf of Mexico. It consists of several parallel ranges which are broken up in the northeast.

The Appalachians are cut through, or *gapped*, by the St. Lawrence, and three other rivers which are unnamed on your maps of N. A. Find them. North of New York Harbor the highlands extend nearly to the seacoast, but south of this harbor or bay the Atlantic Coastal Plain gradually widens, until it merges into the wide Gulf Plain of the southern coast.



The farmers of the great plateau region *irrigate* their land to provide moisture to make it productive.

The Appalachians are much older than the western highlands. We know this because of the rounded or flattened tops, and because rivers have had time to cut deep gorges in them. In some places these mountains are worn nearly to base-level. They have rich deposits of coal, iron, petroleum, and other mineral wealth. Many manufacturing and mining cities and towns are located in this region.

Lay tissue paper over the Appalachian Highlands, and trace them. Also trace the rivers which flow down each slope. Indicate the water-partings. Tell the general direction of the rivers of the Atlantic slope.

On the rivers of the Atlantic slope are many manufacturing cities and trade centers, which are connected with each other, and with numerous seaports, by railroads.

The Mississippi River drains one of the largest river-basins in the world. Its largest tributary, the Missouri, is nearly as large as the main stream. As the Missouri drains snow-clad mountains, it carries a great amount of soil to the Mississippi. This soil is spread out over the flood-plain during flood-time. The Mississippi is navigable for steamers from its mouth, for nearly its entire length, to the Falls of St. Anthony in Minnesota. Its largest tributaries are also navigable. The Mississippi flows through a rich farming district, where the grains of the cooler temperate sections and the cotton and sugar-cane of the warm sections, are produced in large quantities. The delta of this river is of great extent and furnishes a fine rich soil for the cultivation of cotton, rice, and other farm products. (Page 116.) Take an imaginary journey up or down this river; tell what you would see; through what cities and through what great production sections you would pass.

The St. Lawrence has a fine wide mouth, and is navigable for ocean steamers to Montreal, which is nearly a thousand miles from the sea. Above Montreal it has rapids and falls in its course around which canals have been made. On this river and through the lakes which it drains, a great commerce is carried on except during the coldest winter months, when these waterways are frozen over.

Scenes in the great wheat region of the Mississippi Valley and Great Lakes. The flour mill is in Minneapolis. The elevators are in Chicago.

In what belts of climate does North America lie? In what sections are the winters longest? Where are the summers longest? What cold current flows along the northeastern coast? What warm current flows near the western coast? What one along the eastern coast? (Page 98.)

The WINDS *which blow from these different ocean currents warm or cool the shores on which they blow.* The warm winds usually carry moisture.

Tell the effect of the winds on the northeastern part of North America; on the southeastern shore; on the western shore.

Which winds must blow over Canada and northern United States in winter? Which kind of wind must blow from the Gulf of Mexico?

In summer all places near the seashore are cooler than places which lie inland. Places upon the shores of the great lakes are also cooler in summer. In winter, places upon the sea- or lake-shore are warmer than those which lie some distance inland. Inland snowstorms often become rainstorms as they approach the sea. Which is cooler in summer, Boston or Indianapolis? Boston or Chicago?

It is cooler in the mountainous districts than in the lowlands. Snow remains on the summits of some of the western mountains for the entire year. Glaciers descend from many of these mountain tops and melt into streams of water as they reach lower, warmer land. Glaciers increase in number and size northward from the United States. In southeastern Alaska there are many great ice-rivers and ice-sheets which slowly move to the sea. Large pieces of ice break off as they reach the sea and float away as *icebergs*. (See next page.) Sometimes these pieces, together with the breaking up of the ice on the northern rivers, form *ice-packs* which are extremely difficult for vessels to pass through.

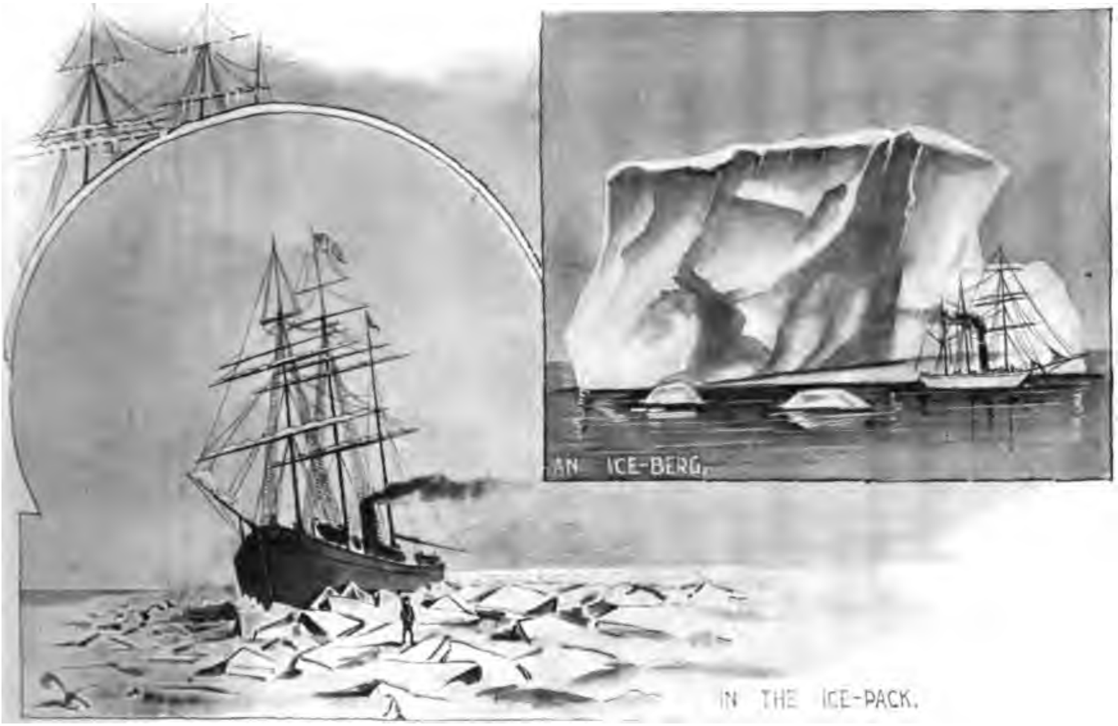
IN THE SUNNY SOUTH

Scenes in the southern part of the Mississippi Valley and the Gulf Coastal Plain. Describe each.

From the map on page 118 tell in which section of North America only grass and moss grow. Where are the great forests? What trees are in the forest section? What industries are carried on in a forest region? Tell the different uses of lumber.

Trace the great grain sections. Tell what grains are raised. Locate each as far as possible. What milling industries are an outgrowth of these grain products? (Pages 28, 115.)

Sections of the Great Central Plain of North America are subject to drouth, and cannot be depended upon for the successful raising of agricultural products. Grass grows abundantly, however, and *grazing* is the most important occupation of this great agricultural section.


AN ICE-BERG.

IN THE ICE-PACK.

What is done with the great herds of cattle and swine which feed on the plains? (Page 52.)

Locate the tropical fruit sections. Tell what fruits are raised. More fruits are grown than can be used in the regions where they are raised. They are shipped away to supply the Northern markets. What other important products do you find in the Eastern fruit region? What can you tell us of cotton? (See page 26.) What can you tell of the production of sugar from sugar-cane? (Page 148.)

In which part of North America is tobacco raised? Hemp? In what region is mahogany a valuable forest product? What plant products do you find in the West Indies? Locate the great mining regions and tell what minerals are found in them.

Review pages 37 to 43, inclusive. What animals belong especially to North America? In what section are the fur-bearing animals? Name these animals, and tell to what family group they belong? What animals are used as beasts of burden and for work in the northern part of North America? What in the mountainous regions? What in the southern sections? What fish or sea animals are mentioned in the map?

Review pages 44 to 49, inclusive. What people live in North America? To what races do they belong? Describe the homes of the White people; of the Eskimos; of the Indians. Tell what you can of the Negroes in North America. (Page 57.) From the map on page 118 tell in what occupations the people are engaged in the different sections. Tell what you can about each of these occupations. In what ways is the manufacturer dependent upon what the farmer raises? In what ways is the farmer dependent upon the miner and the manu-

facturer? Think of other occupations, and tell how each depends upon or contributes to one or more other occupations.

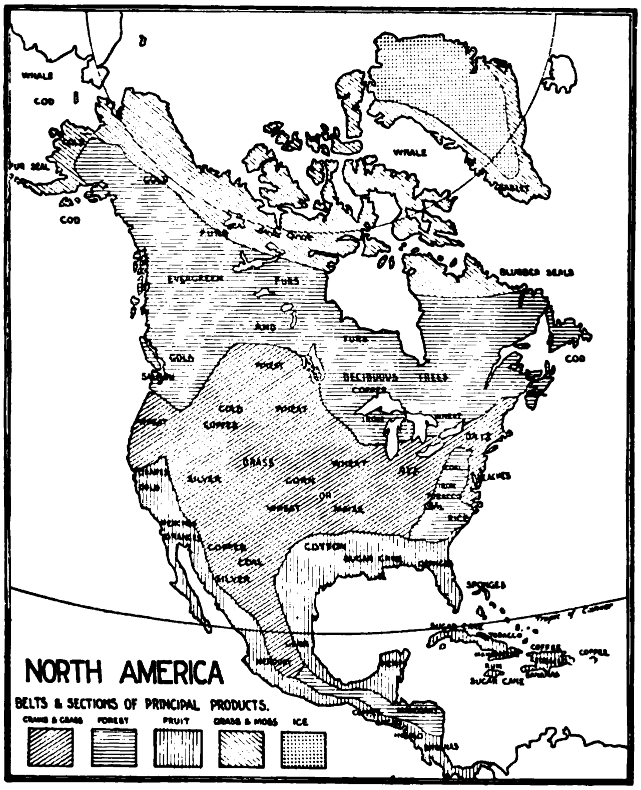
The cities and towns are outgrowths of the great production sections. The largest trade-centers of North America are on the rivers, the lakes, and the sea-coast.

Locate New York, the largest city; Chicago, the second largest city; and Philadelphia, the third largest city of North America. Also locate St. Louis, San Francisco, New Orleans, Sitka, Montreal, Havana, Vera Cruz, Mexico.

New York is the second largest commercial center in the world, and has one of the finest harbors. It is the largest manufacturing and the largest book-printing city in North America.

Chicago is the sixth largest city in the world. It is located at the head of Lake Michigan, in the heart of the great northern agricultural section. It can be easily reached from both the lumber and grazing sections. Hence it is the greatest grain and meat market in the world, and one of the leading lumber markets in North America. It is connected by water with the Atlantic. Trace the route. It is connected by railroad with all other cities of North America, and is the greatest railroad center in the world.

San Francisco, from its position, is now one of the most important seaports of North America. Most of the merchandise and people pass through this port in going to or coming from our Pacific islands. This will soon cause San Francisco to rival in size and importance many of the seaports of the world.



North America comprises the countries of *United States* (including Alaska), *Canada*, *Mexico*, and *Central America*.

Point out each on the map and tell which part of North America it occupies. Tell which country is largest; which smallest. Tell the capital of each.

Neither Canada, Mexico, nor Central America is as thickly settled as United States. The northern part of Canada is too cold, and the larger portions of Mexico and Central America are too warm and unhealthful, to admit of a large population.

THE UNITED STATES, OUR COUNTRY.

Note.—In connection with the study of the United States you should read about the early colonies; how they gained their freedom from English rule; of the thirteen original States; of the growth in States and territory to the present. You should make a political, a surface and climate, and a product map.

Bring in pictures of mountain, river, lake, and coast scenery; also of different industries, and of the buildings and prominent features of any city about which you study. Arrange them all neatly and in order.

Bring in specimens of products and manufactures, thus making collections for yourself and school.

THE CAPITOL.

THE CONGRESSIONAL LIBRARY.

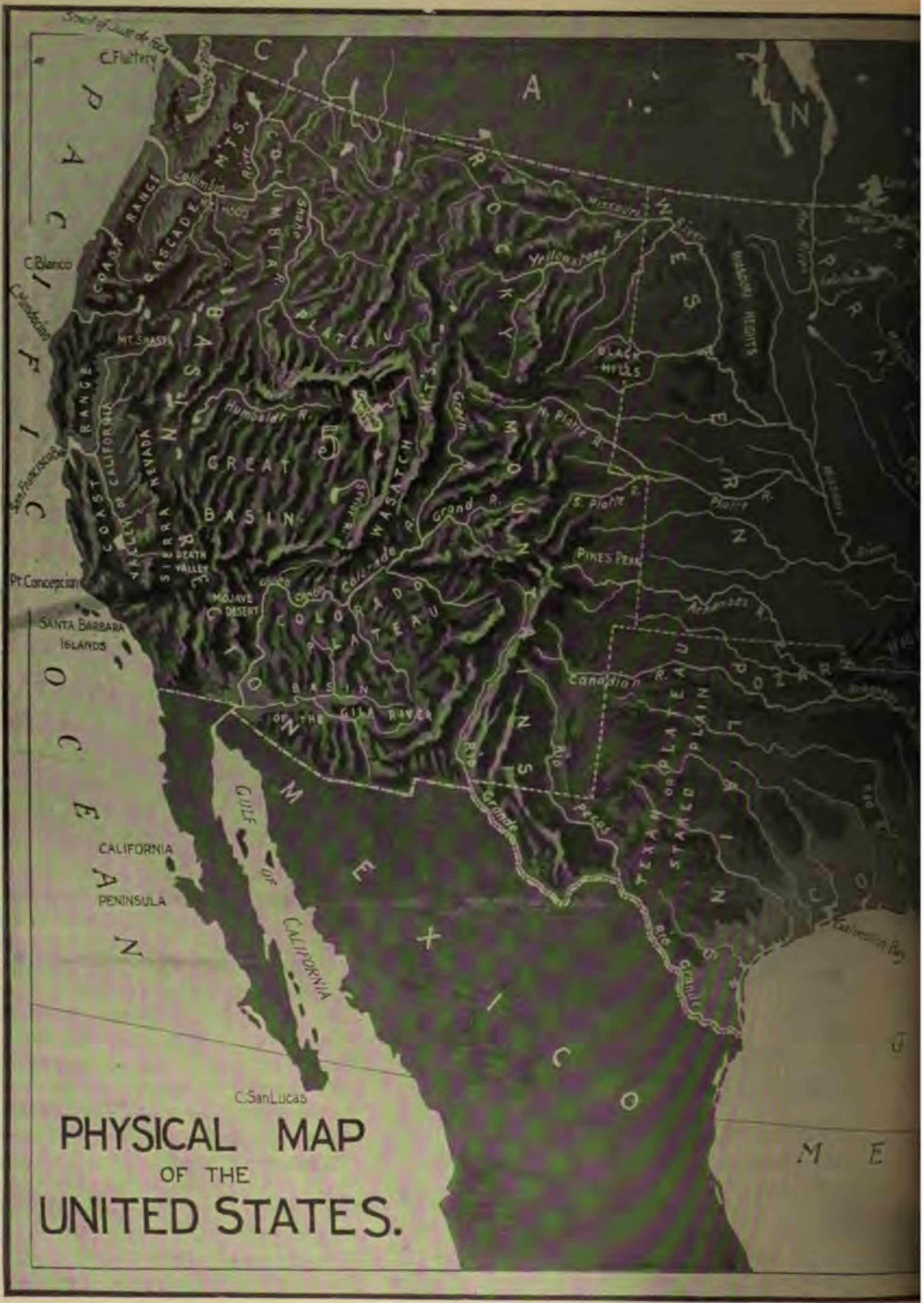
The United States is so called because the different States and Territories are all united under one government, the seat of which is at Washington.

The country of the United States comprises forty-five States; five Territories, including Alaska; the District of Columbia, in which Washington, the capital, is located; Porto Rico, one of the West Indies; the Hawaiian Islands; the Philippine Islands, and several smaller islands in the Pacific. The island of Cuba, the largest of the West Indies, is now a protectorate of the United States.

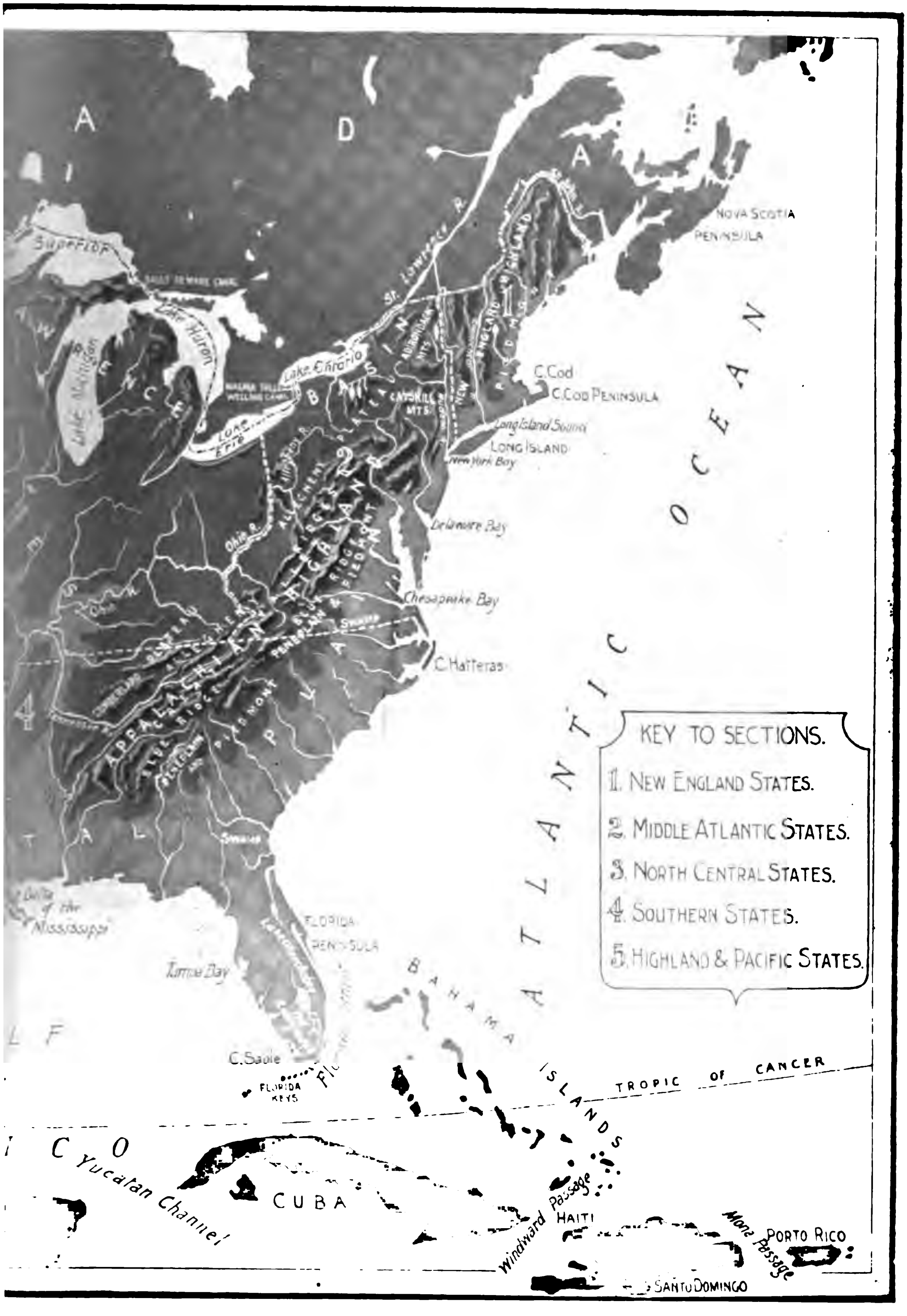
THE WHITE HOUSE. OUR PRESIDENT'S HOME.

Take your political map of North America and cut Canada from the northern boundary and Mexico from the southern boundary of the United States. From the map of North America on the black-board erase Canada and Mexico. From the sand model also take these countries. Through what rivers, lakes, and celebrated falls does the northern boundary pass? Through what river does the southern boundary pass? Point out and name other water boundaries. Trace the shape of the United States in the air. Sketch it. In what direction is the United States from Canada? From Mexico? From the Atlantic Ocean? From the Pacific? From the Gulf of Mexico? Trace the coast line. Name and locate the peninsulas and capes on the eastern coast; on the southeastern coast; on the western coast. Name and locate the indentations in each coast; also the islands which lie near the coast.

What part of the Pacific or Primary Highland of North America is in the United States? What great plain? What coastal plains? What large river basin lies wholly in the United States? What river basins lie partially in the United States? On the physical map trace the Rocky Mountain



PHYSICAL MAP OF THE UNITED STATES.


CANADA
Superior
Sault Ste Marie Canal
Lake Michigan
Lake Huron
Lake Ontario
Lake Erie
Welland Canal
St. Lawrence R.
Adirondack Mts.
Catskill Mts.
New England Highland
Nova Scotia Peninsula
C. Cod
C. Cod Peninsula
Long Island Sound
Long Island
New York Bay
Delaware Bay
Chesapeake Bay
C. Hatteras
Ohio R.
Allegheny
Appalachian Highland
Blue Ridge
Piedmont
Cumberland Plateau
Atlantic Ocean
KEY TO SECTIONS.
1. New England States.
2. Middle Atlantic States.
3. North Central States.
4. Southern States.
5. Highland & Pacific States.
Delta of the Mississippi
Tampa Bay
Florida Peninsula
C. Sable
Florida Keys
Florida Strait
Bahama Islands
Tropic of Cancer
Yucatan Channel
Cuba
Windward Passage
Haiti
Mona Passage
Porto Rico
Santo Domingo

Range; the Wahsatch Range; the Cascade Range; the Sierra Nevada Range; the Coast Range. To which of the great mountain systems of North America does each belong? (Page 113.)

Locate the Columbia Plateau. What river cuts it and drains it to the sea? What large tributary has this river? Trace the river and the tributary, describing their courses as you trace.

The Columbia Plateau was built up of vast lava floods from the overflow of volcanoes, which buried mountains almost to their summits a long, long time ago. It consists for the most part of plains covered with sage brush and grass, and adapted to grazing. Many sections, especially in the river valleys, are adapted to wheat-raising. The plateau is deeply cut by the Columbia River and its tributaries.

CACTUS & YUCCA.

These plants are peculiarly adapted to a dry climate. They have thick leaves and stalks which are very juicy. The juice is kept from drying out by the thick outer covering of the entire plant.

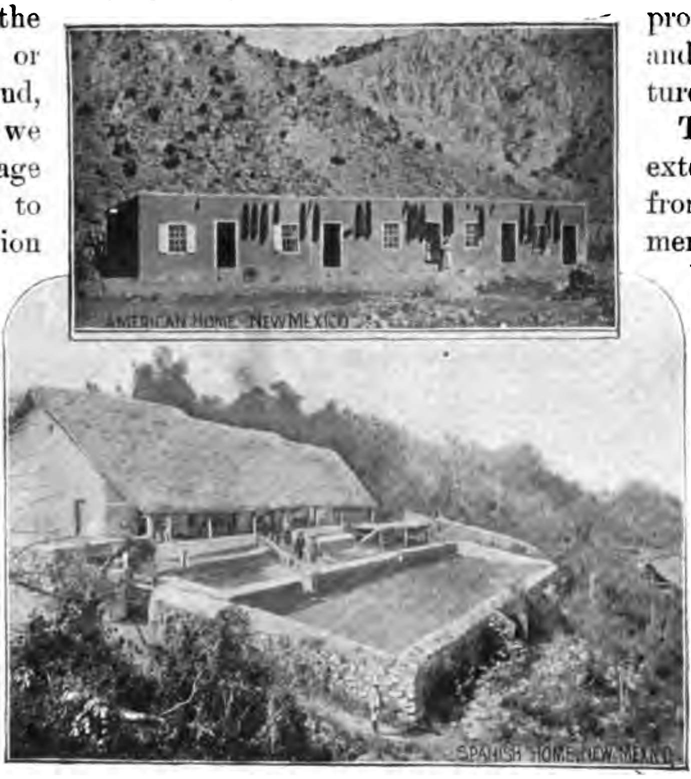
Trace the low water-parting which separates the Columbia and Snake River basins from the Basin Region. Trace the Basin Region. Locate the Great Basin in it. Locate Great Salt Lake. Trace the Humboldt River; the Sevior River. Locate the Gila River Basin.

The Basin Region consists of vast salt and alkali fields crossed by many mountain ranges, which vary in height. The entire region has so little moisture that the streams dry up and disappear. Trees grow on some of the mountains, but many of them are bare to their summits. Sagebrush grows everywhere. In the warm southern parts of the basin the thorny cactus and spiny yucca grow.

In the Great Basin are two great depressions—Death Valley and Mojave Desert—which lie several hundred feet below sea-level. Find them.

Locate the Colorado Plateau. What two rivers unite to form the Colorado River? Trace the basin of the Colorado. Trace the river and its tributaries, describing each.

The Colorado plateau is cut up—dissected—by the wearing action of the Colorado River and its few tributaries. The river has cut deep gorges or canyons through the red sandstone plateau to the depth of more than a mile. The climate is always so dry that the wearing and weathering of the narrow valley sides are very slow; hence the walls of the canyon are almost perpendicular. (Page 83.) The highest parts of the plateau are covered with forests. There are many *mesas*, or remnants of what must once have been a much higher rock plateau. (Page 71.)



HOMES IN THE BASIN REGION.

You see that the great Western or Primary Highland, about which we studied on page 112, descends to the Basin Region as it extends northward from the Mexican Plateau. From this basin it rises again in the Columbia and Colorado Plateaus. The Rocky Mountains mark the eastern, and the Sierra Nevada and Cascade Mountains the western, boundary of this vast region. The entire region is dry, but many sections yield abundantly under irrigation. (Page 114.)

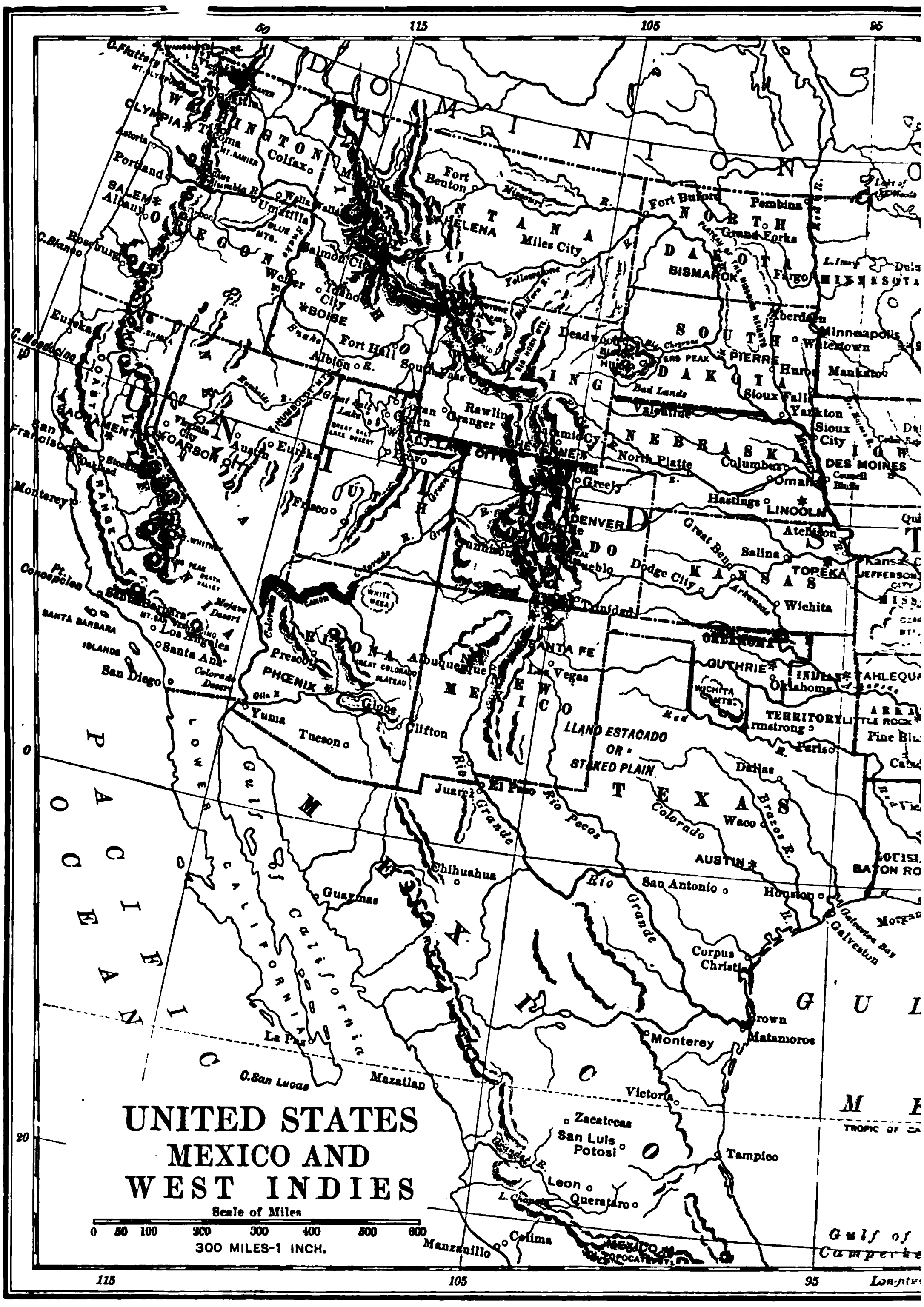
Many ranches and mining towns are scattered throughout the greater part of this region. Everywhere there is evidence of former volcanic action. Most of the mountain peaks were once volcanoes. Find and name some of these peaks.

Between the high Sierras and the low Coast ranges is the valley of California. It is drained to the sea by two rivers. Trace them. This is a rich and fertile valley, although much of it is made so only through irrigation. Great vineyards are cultivated for the production of wine and raisins. (See picture on next page.)

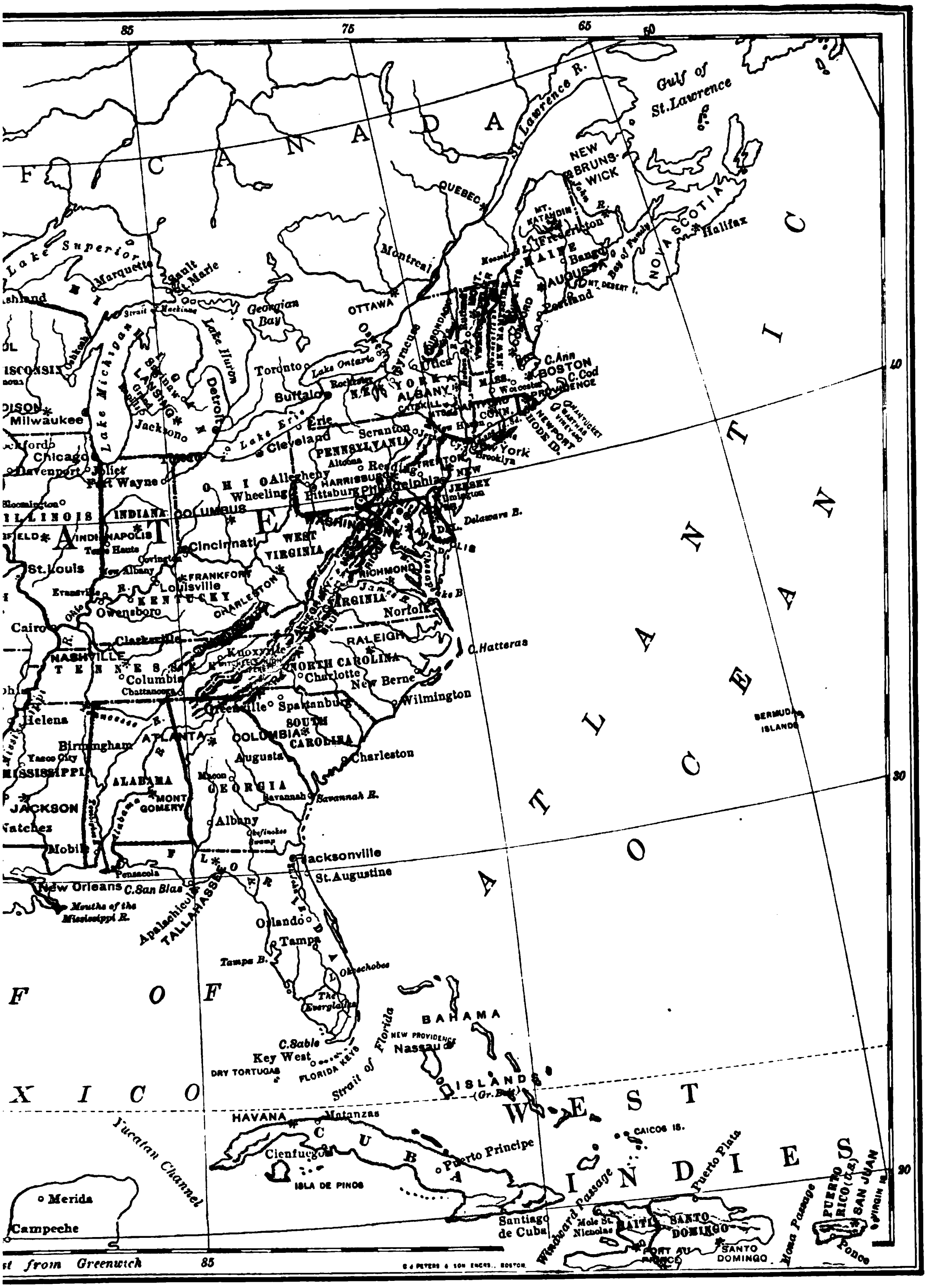
The Great Plains extend eastward from the Rockies, merging into the Valley of the Mississippi. The plains are broken by the Black Hills, the Missouri Heights, the Ozark Highland, and the dry Texan Plateau. Find each.

The amount of rainfall on these plains is so uncertain from year to year that grazing has been found to yield a better and surer return in money than other farm occupations. The Black Hills are forest-clad, and rich in mineral deposits. The Ozark Mountains are noted for their lead ore.

Forests grow on the river banks and on the higher parts of these plains. Trace the many streams which flow across



UNITED STATES MEXICO AND WEST INDIES


85
75
65
60
C A N A D A
Gulf of St. Lawrence
St. Lawrence R.
QUEBEC
Montreal
OTTAWA
NEW BRUNSWICK
Fredericton
NOVA SCOTIA
Halifax
Bay of Fundy
MAINE
Bangor
AUGUSTA
Portland
MT. KATAHDIN
MT. DESERT I.
BOSTON
C. Ann
C. Cod
PROVIDENCE
RHODE ID.
NEWPORT
NANTUCKET
MARTHAS VINEYARD
CONN.
New Haven
New York
Brooklyn
NEW JERSEY
TRENTON
Wilmington
Delaware B.
Lake Superior
Marquette
Sault St. Marie
Strait of Mackinac
Georgian Bay
Lake Huron
Lake Michigan
LANSING
Saginaw
Jackson
Detroit
Toronto
Lake Ontario
Rochester
Syracuse
Utica
ALBANY
CATSKILL MTS.
Buffalo
Lake Erie
Erie
Cleveland
Scranton
PENNSYLVANIA
Altoona
Reading
HARRISBURG
Philadelphia
Allegheny
Pittsburg
Wheeling
O H I O
COLUMBUS
Cincinnati
WEST VIRGINIA
CHARLESTON
WASHINGTON
RICHMOND
James R.
VIRGINIA
Norfolk
Chesapeake B.
RALEIGH
C. Hatteras
NORTH CAROLINA
Charlotte
New Berne
Wilmington
Ashland
WISCONSIN
MADISON
Milwaukee
Rockford
Chicago
Davenport
Joliet
Fort Wayne
Bloomington
ILLINOIS
INDIANA
INDIANAPOLIS
Terre Haute
SPRINGFIELD
St. Louis
Evansville
New Albany
Covington
FRANKFORT
Louisville
KENTUCKY
Owensboro
Ohio R.
Cairo
Clarksville
NASHVILLE
TENNESSEE
Knoxville
Columbia
Chattanooga
Memphis
Helena
Greenville
Spartanburg
SOUTH CAROLINA
COLUMBIA
Charleston
Augusta
ATLANTA
Birmingham
Yazoo City
MISSISSIPPI
JACKSON
Natchez
ALABAMA
MONTGOMERY
Macon
GEORGIA
Savannah
Savannah R.
Albany
Okefinokee Swamp
Mobile
Pensacola
New Orleans
C. San Blas
Mouths of the Mississippi R.
Jacksonville
St. Augustine
FLORIDA
TALLAHASSEE
Apalachicola
Orlando
Tampa
Tampa B.
L. Okeechobee
The Everglades
C. Sable
Key West
DRY TORTUGAS
FLORIDA KEYS
Strait of Florida
A T L A N T I C   O C E A N
BERMUDA ISLANDS
40
30
20
BAHAMA ISLANDS
NEW PROVIDENCE
Nassau
(Gr. Bah.)
CAICOS IS.
W E S T   I N D I E S
G U L F   O F   M E X I C O
Yucatan Channel
HAVANA
Matanzas
C U B A
Cienfuegos
ISLA DE PINOS
Puerto Principe
Santiago de Cuba
Windward Passage
Mole St. Nicolas
HAITI
PORT AU PRINCE
SANTO DOMINGO
Puerto Plata
Mona Passage
PUERTO RICO (U.S.)
SAN JUAN
Ponce
VIRGIN IS.
Merida
Campeche
...t from Greenwich
G. H. PETERS & SON ENGRS., BOSTON

the plains. Most of them have their sources among the snow-covered peaks of the Rockies. Which ones seem to break through the mountains?

Trace the Appalachian System. By what name is it known in New England? In New York? Trace the Atlantic and the Gulf Coastal Plains. In what direction does the land slope? How do you know this? Find and trace the Peneplain and Piedmont Section; the Blue Ridge, the Great Valley, the Alleghany Ridge and Plateau; the Cumberland Plateau.

A VINEYARD. CALIFORNIA.

We have already learned that mountains are great folds or blocks which have been thrown or pressed up by some force below the earth's crust; that they are always being reduced by the action of water and weather; that the streams are carrying the soil thus formed to low land and to the sea. We have also learned that the Appalachians are very, very old, and have been greatly worn down through long-continued weathering.

The *Piedmont* (meaning "foot of mountain") is an upland plain, or plateau, lying between the Appalachians and the low-lying Coastal Plain. It is the remains of old mountain folds which have been worn nearly to level land. Such worn-down mountain masses are sometimes called *peneplains* (meaning "almost a plain"). The Piedmont is a farming district.

The decay of the old mountain ridges, together with the waste from the present Appalachians, has caused, and is still causing, great quantities of material to be carried to the sea. After many, many years the Coastal Plain, which includes the peninsula of Florida, has been built above the level of the sea by this mountain waste. Skirting the coast is a strip of swamp which has not yet been made into solid land. Most of the Coastal Plain consists of the "pine barrens" from which the "naval stores" are procured. (Page 33.) In the upland or Piedmont Section great quantities of cotton are raised. Market-gardening for the production of fruits and vegetables for the Northern markets is a rapidly growing occupation. In the swampy lowlands rice is quite extensively raised. (Page 116.)

Along the line where the Peneplain

drops to the Coastal Plain there are many factories. What do you think about the speed of the rivers on this line?

The Great Valley can be traced the entire length of the Appalachians. It is filled with much of the soil which has been washed from the mountains. The Allegheny Plateau extends along the western border from the Cumberland Mountains to the Catskills. It generally decreases in height to the Ohio Basin and the Prairies. This plateau, as well as most of the Appalachian Highland, is forest-covered. The entire highland south of the Catskills is extremely rich in coal, iron, petroleum, and natural gas. The southern mineral sections have been but little worked, but in the middle sections, especially in Pennsylvania, there are many great mining and manufacturing towns and cities.

MATURING FOR SEED.
ASSORTING & CLASSIFYING.
CARROTS READY TO BE BALED.
STRINGING LEAVES & HANGING IN SHED.
PRIMING THE RIPE LEAVES.
BALES OF TOBACCO
SHED FOR DRYING THE TOBACCO.

TOBACCO CULTURE.

The early settlers found the Indians cultivating tobacco in Virginia and Maryland. From here it has gradually spread all over the world. Describe each scene.

Right in the heart of the iron and coal regions are the great cities of *Pittsburg* and *Allegheny*. They are on opposite banks of the Allegheny River, where it unites with the Monongahela to form the Ohio. (See next page.) Pittsburg is one of the largest manufacturing cities in the United States. Its iron works are the admiration of the manufacturing world. Locate this city.

The Appalachian mountain regions are thinly settled—the people living in the simplest way on small farms. There are few opportunities for education, as the people are so scattered that only elementary schools can be supported.

AN IMPORTANT OUTLET FOR THE GREAT WHEAT AND LUMBER REGION. *Describe the picture.*

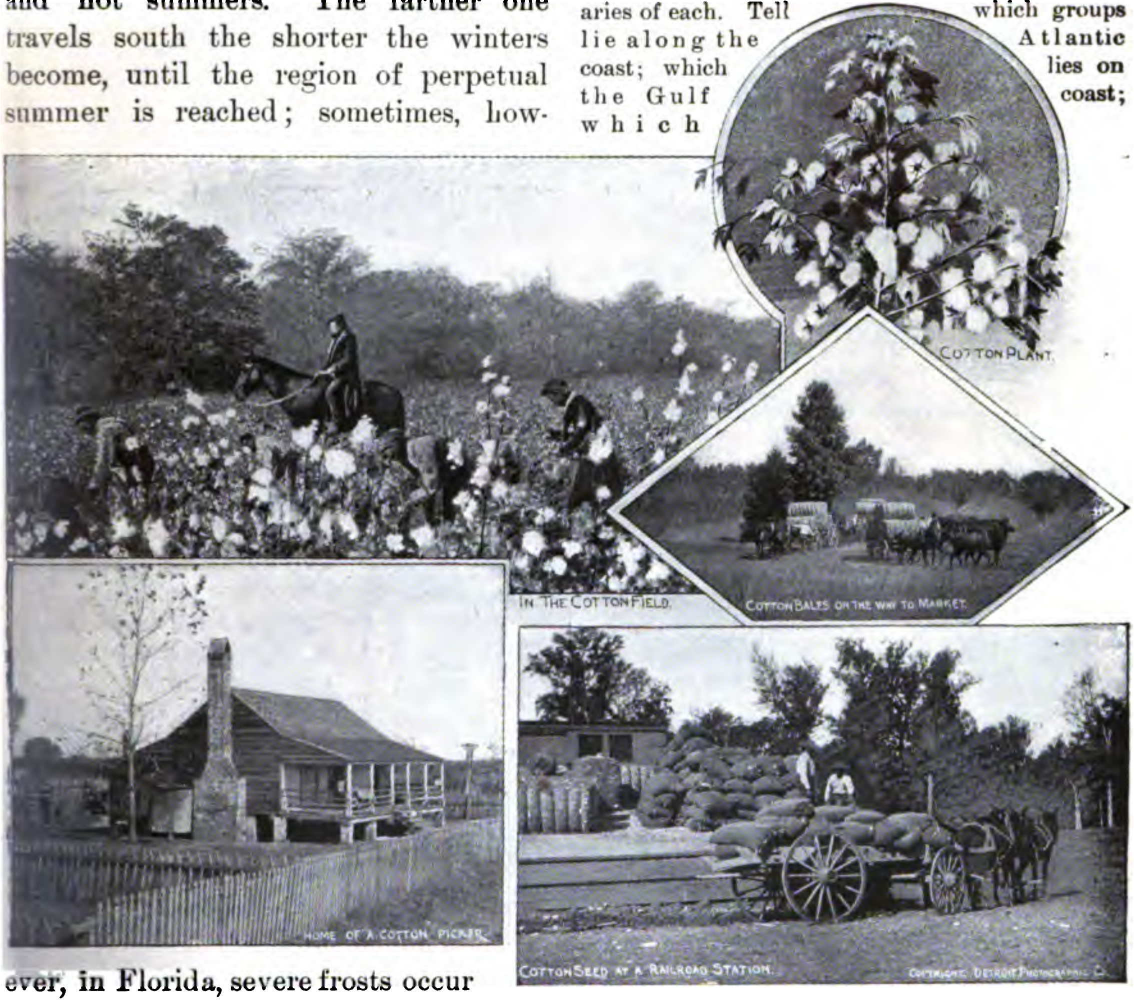
In what belt of climate does the United States lie? Compare the climate of the northern part with that of the southern part in all the ways you can.

The entire western coast of the United States is warmer than the greater part of the eastern coast. This is because the warm ocean current flows near this coast and warm winds from the southwest prevail, and also because the high mountain wall shuts off the cold north winds.

The northeastern coast is made colder by the cold east winds which blow from the North Atlantic across the Arctic current. South of Long Island Sound the winds which blow across the Gulf Stream warm and moisten the Coastal Plain. Warm south winds blow from the Gulf up through the Mississippi Valley, and give the necessary moisture for vegetation. Cold north winds sweep the Great Plains in winter, making extremely cold weather. In the region of the Great Lakes the weather is more uniformly equal in temperature than in regions remote from great bodies of water. The air is cool, dry, and bracing everywhere among the mountains. No part of the Appalachian Highland is as dry as the plateau section of the Western Highland.

THE MONONGAHELA AND THE ALLEGHANY RIVERS UNITE TO FORM THE OHIO RIVER AT PITTSBURG AND ALLEGHENY.

The entire northern part of the United States has long, cold winters and hot summers. The farther one travels south the shorter the winters become, until the region of perpetual summer is reached; sometimes, however, in Florida, severe frosts occur and injure the fruits.



COTTON PLANT.

IN THE COTTON FIELD.

COTTON BALES ON THE WAY TO MARKET.

HOME OF A COTTON PICKER.

COTTON SEED AT A RAILROAD STATION.

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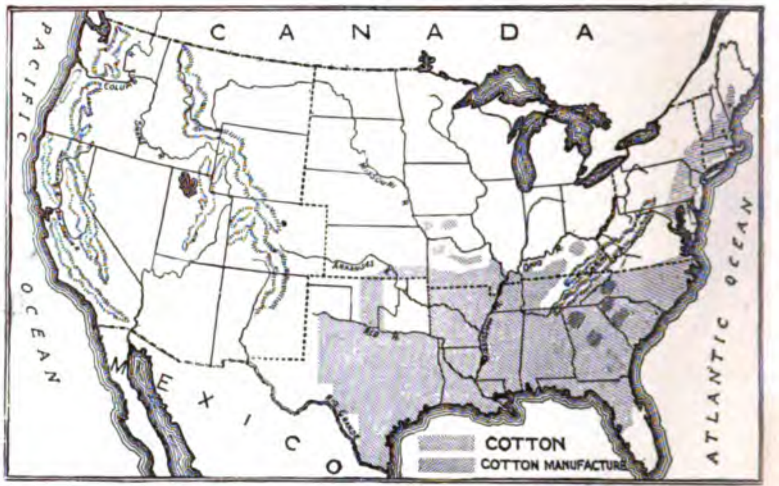
Because of the great difference of climate and soil in United States, there are different production sections.

For convenience we have divided the States and Territories into five sections, according to their products or industries. They are the *New England* or *Manufacturing Section;* the *Middle Atlantic* or *Coal and Iron Section;* the *North Central* or *Northern Agricultural Section;* the *Southern* or *Southern Agricultural Section;* the *Highland and Pacific* or *Mining and Grazing Section.*

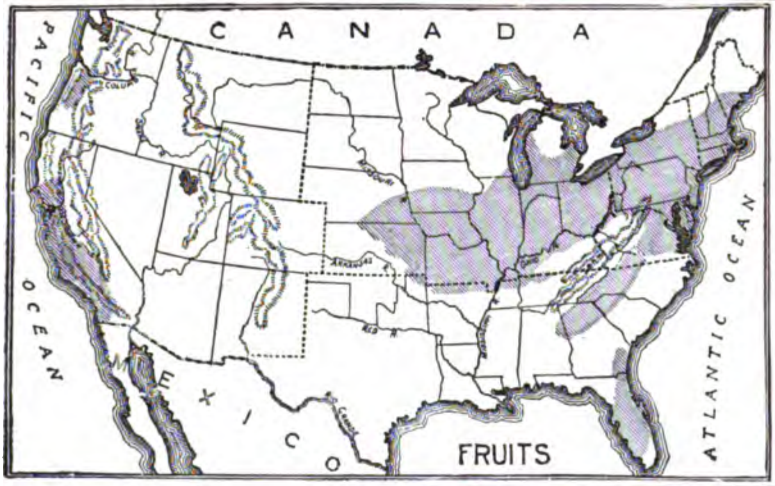
Locate each group. Trace and tell the boundaries of each. Tell which groups lie along the Atlantic coast; which lies on the Gulf coast; which border the Great Lakes; which border Canada; which lies on the Pacific coast; which lie in the Mississippi Valley?

Which groups are most mountainous? Which is in the Western Highland? Which lie almost wholly in the Great Plains and Coastal Plains?

From the first map on the next page tell which section raises nearly all of the cotton in the United States. Which section is especially noted for its cotton manufactures. Tell what you can about cotton. Find out what you can about the cotton gin.

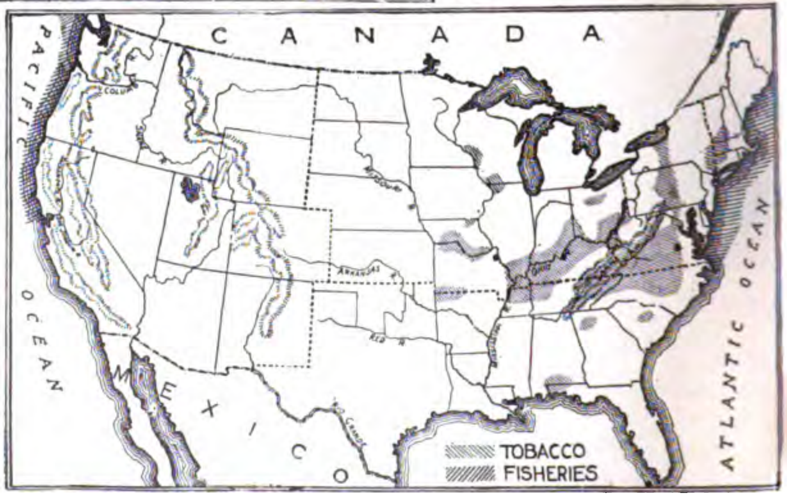


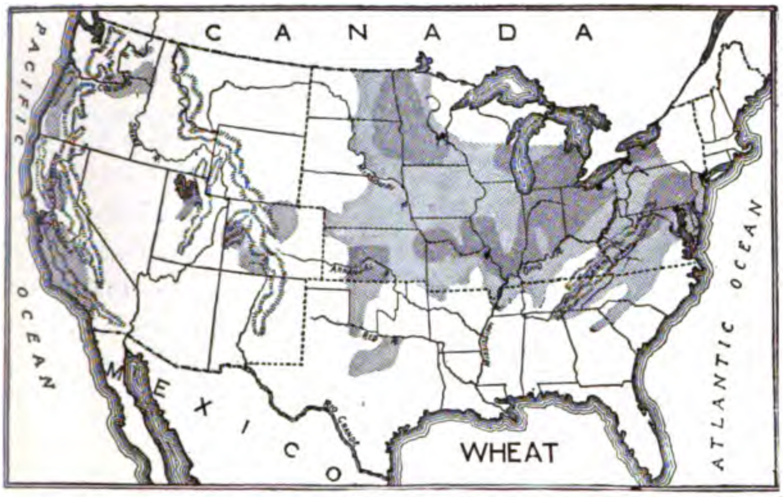
New England has many manufactures of all kinds, but it leads in the manufacture of cotton goods. *Fall River*, *Manchester*, and *Lowell* have great cotton industries. The Southern States are developing manufacturing industries rapidly. *Columbia*, *Augusta*, and *Atlanta* have large cotton mills. The people of this section can manufacture cotton goods at a less expense than the New England section. Can you think of any reason for this? *New Orleans* is the chief cotton market in the world, and is the outlet for the products of the southern part of the Mississippi Valley. *Galveston*, *Memphis*, and *Mobile* are also great cotton markets. Find all of the cities mentioned.



A great hurricane nearly destroyed the city of Galveston, September 8, 1900. Find out what you can about it.

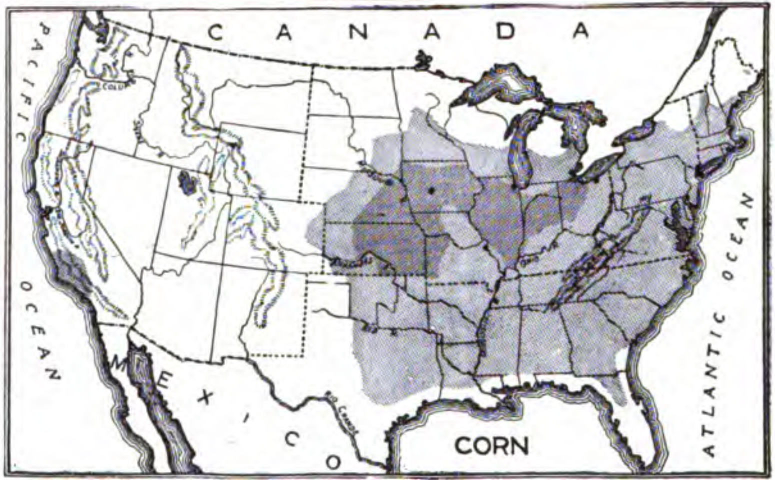
Locate the fruit regions in the section to which they belong. Make a list of the fruits. (Page 27.) What ones grow in your locality?

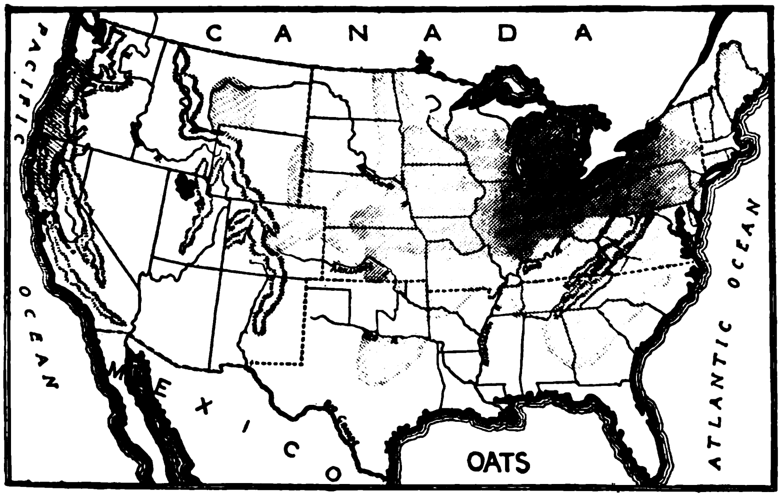




Southern California and Florida furnish the northern and middle sections with oranges, lemons, pineapples, bananas, and other semi-tropical fruits. The southern sections furnish the northern markets with early fruits, such as strawberries, water melons, etc., long before they are ripe in any of the northern sections. Peaches grow abundantly in California and on the Coastal Plain of the Middle Atlantic Section.

More tobacco is raised in the United States than in any other country in the world. From the map tell in which sections it is raised. *St. Louis, Louisville*, and *Richmond* are the greatest tobacco markets in the United States. Locate these cities.

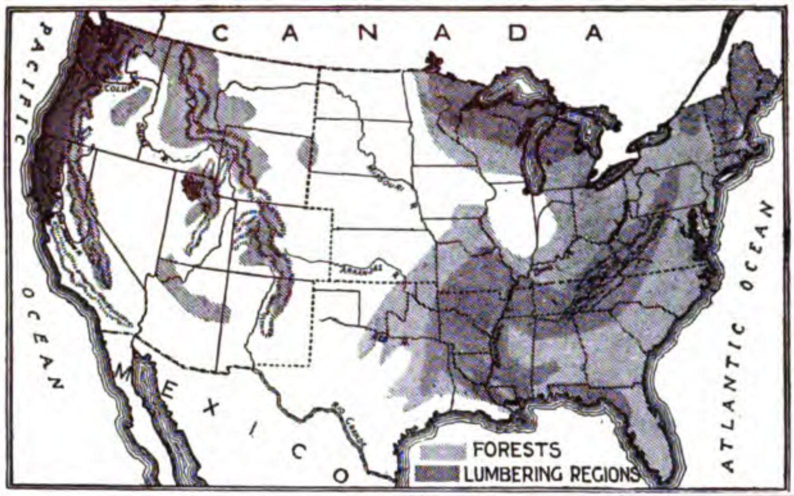




Locate the fisheries. What fish abound in the waters of the northeastern coast? (Page 60.) What on the western coast? *Baltimore* is the great oyster market of the world.

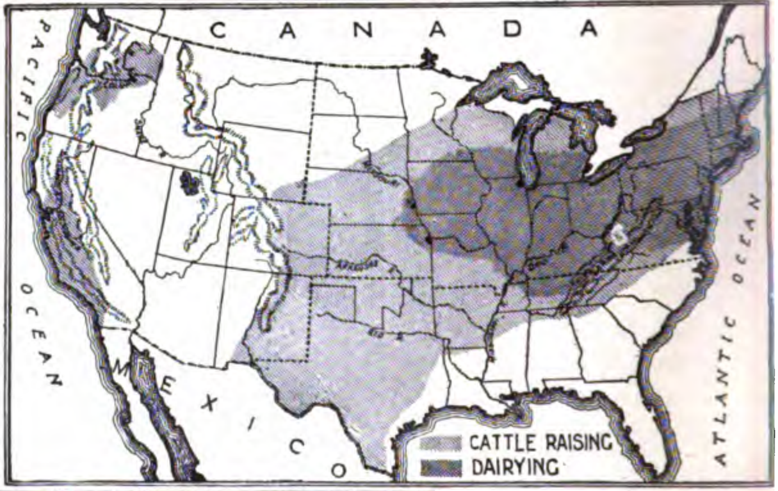
NOTE.—The heavier shading indicates where wheat is especially produced. Tell what sections raise wheat.

Flour mills are in *Minneapolis*, *St. Louis*, and *Rochester*, Minneapolis being the princi-



pal city in the world in the manufacture of flour. (Page 115.) Wheat and flour are sent or *exported* to other countries.

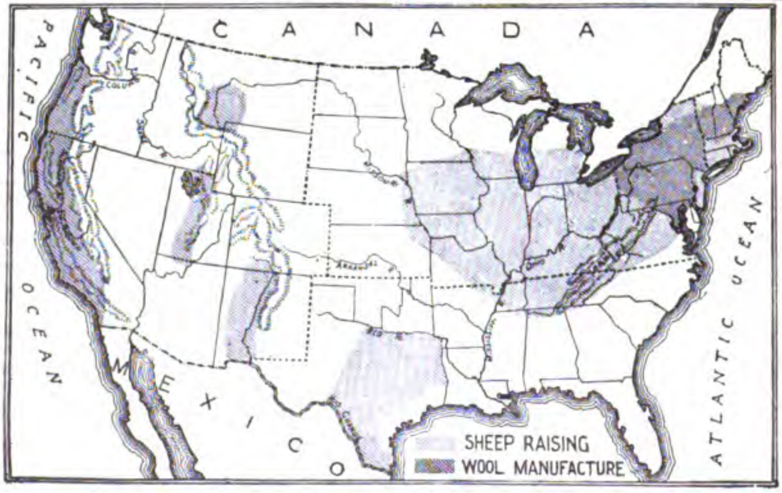
Locate the corn sections. Which States lie in the great corn belt? The corn is used to fatten the herds of cattle and swine which graze on the great plains and prairies. It is the leading grain food in the United States.



Tell in which section oats are raised. In what particular sections is the oat belt? Locate the forest regions in the different sections? In which parts of these regions is lumbering carried on?

In the northern and northeastern parts there are many evergreens and birches. The long-leaf pine covers the Coastal Plain. Deciduous trees of all kinds are scattered throughout the forest regions. *Grand Rapids*, Mich., and *Chicago* lie near the great lumber district, and manufacture all kinds of furniture, which is sent to other parts of the country.

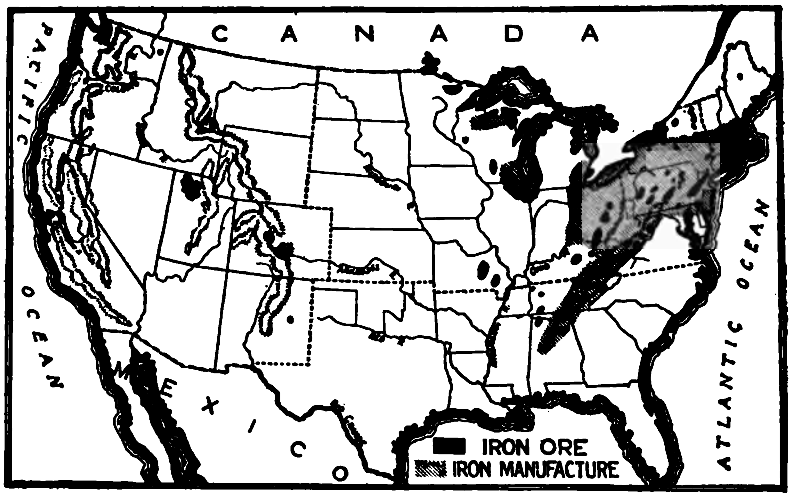
Which sections are largely engaged in cattle-raising? Which sections are partially engaged in it? What condi-

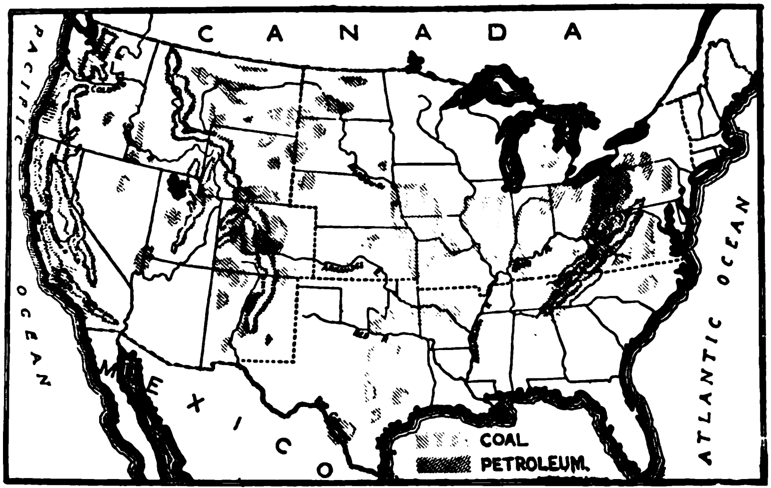


tion make this a profitable industry? Trace the dairy belt. Why is this a profitable industry? What can you tell about *Chicago*? (Page 118.) To what does it owe its very rapid growth?

Chicago has large manufacturing industries of iron and steel. It is, next to New York, the greatest printing, book-making, and news-center in the United States. The Chicago University is located here. Not only is Chicago a great trade center, but it is a literary and art center as well.

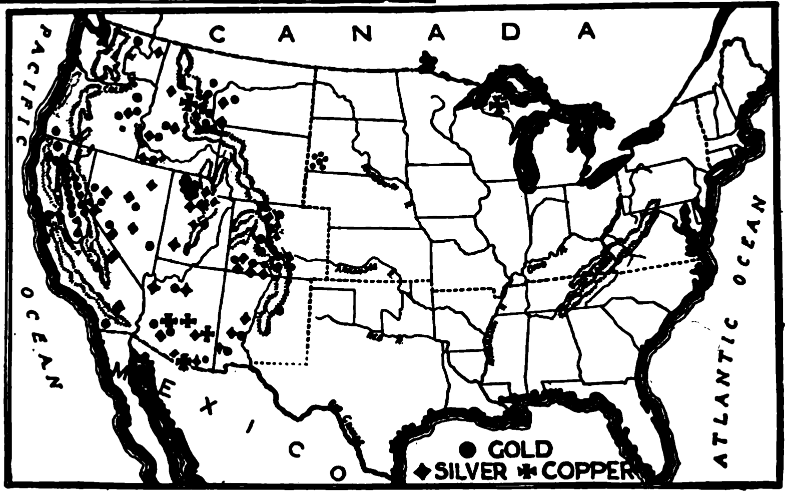
Omaha and *Kansas City* are largely engaged in meat-packing, as are several other smaller Western cities.



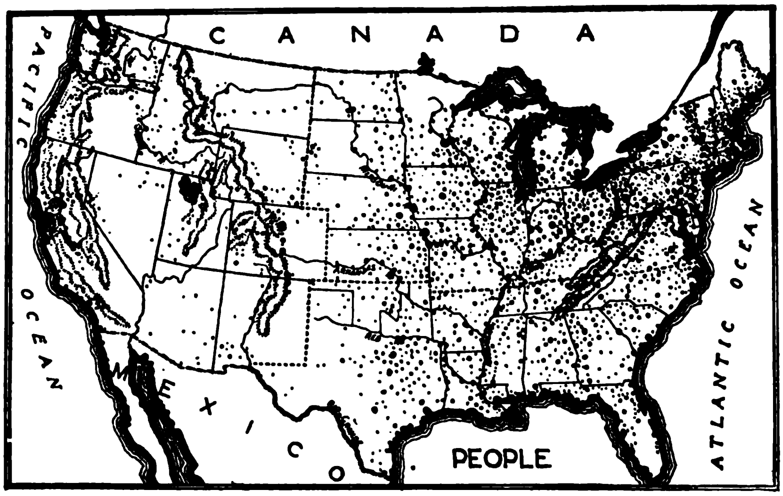


Locate the sheep-raising sections; the woolen-manufacturing section. *Boston* is the great wool-market of the United States. *Philadelphia* is especially noted for its woolen manufactures. There are many other smaller woolen-manufacturing centers.

Locate the regions



where iron ore is obtained, also the regions especially noted for iron manufacturing. *Pittsburg*, *Chicago*, *Cleveland*, *Buffalo*, and *Detroit*, as well as some smaller cities, are largely engaged in this manufacture.

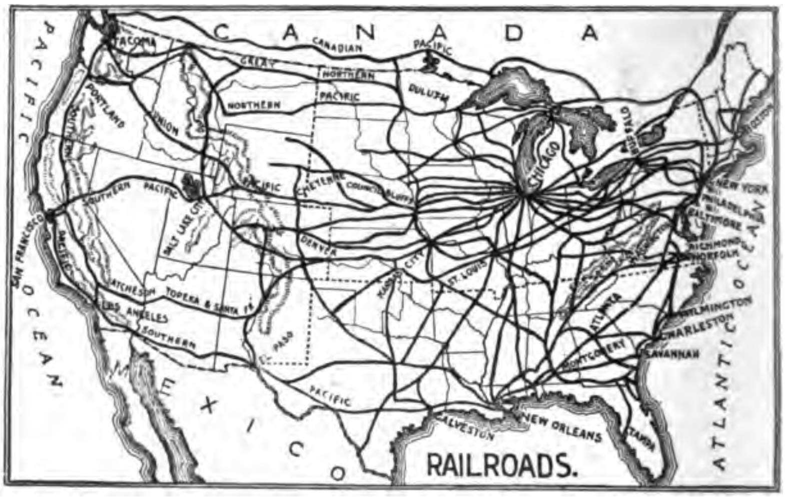


Locate the coal, the petroleum regions. As you see, coal is found in many localities of the United States. The soft-coal fields are widely scattered; the hard coal being found only in eastern Pennsylvania. Many of the cities mentioned in the preceding pages on the United States are coal shipping ports.

Petroleum **is pumped into great tanks from wells bored in the earth. The tanks are connected by pipe lines with refineries in different cities. The principal refineries are in Whiting, Ind., near Chicago; Brooklyn, Philadelphia, and Cleveland. Here the crude oil is refined and the various products of petroleum are secured. Kerosene, lubricating oils, gasoline, benzine, vaseline, and naphtha are some of the products of petroleum.**

Locate the gold, silver, and copper regions. Copper is largely used in conducting electricity, and is of great and increasing value. The purest copper is found near Lake Superior. It is exported from the United States.

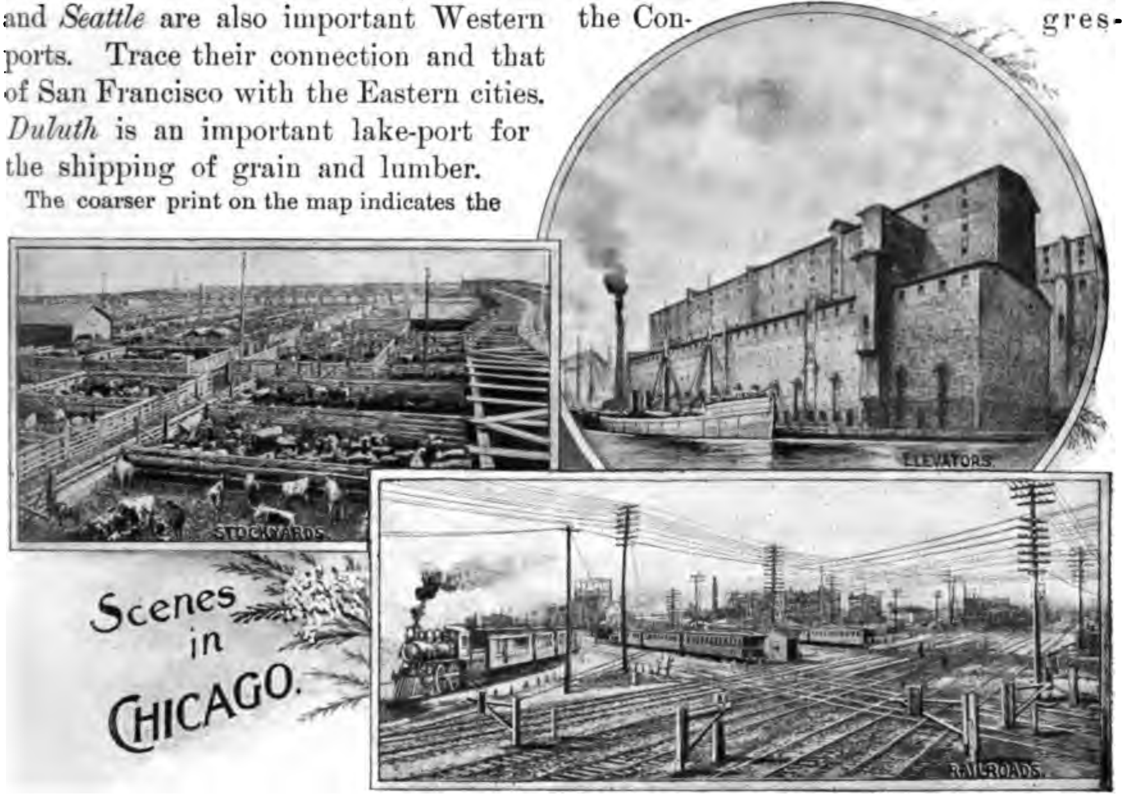
In all these great product sections people have congregated to engage in the various occupations which the physical conditions promote. Large industrial and trade centers have been built up which are connected with sea- and lake-ports and all other important centers by railroad or steamship lines.



From the map tell which sections are most thickly peopled; which are most thinly peopled? Can you give any reason for the difference? Trace some of the railroads in the map. Name four which cross the country from east to west. Tell some of the large cities which they connect.

New York is the largest commercial city in the Western Hemisphere.

What more can you tell of this city? (Page 118.) Other important Eastern seaports are *Boston* and *Philadelphia*. *San Francisco* is an important commercial port. Why? (Page 118.) *Tacoma* and *Seattle* are also important Western ports. Trace their connection and that of San Francisco with the Eastern cities. *Duluth* is an important lake-port for the shipping of grain and lumber.



Scenes in CHICAGO.

The coarser print on the map indicates the larger and more important cities. Name *five* on the Mississippi. They are the trade centers of the agricultural sections. Name *fifteen* cities belonging to the United States; tell in what section each is located, and tell something you have learned about each.

Indian Territory, *Oklahoma*, *Arizona*, and *New Mexico* are Territories lying within the United States. In what section are they located? They have not yet a sufficient number of people to become States. *The District of Columbia* consists of a tract of land set apart to contain the seat of government, Washington.

Washington is a beautiful city, having wide streets and fine parks and containing many imposing and beautiful government buildings and many fine residences. The Capitol, where all the laws are made, and the Congressional Library, are the finest buildings in the United States, and among the finest in the world. During his term of office each President lives in the White House. Who is living there at the present time?

Name the different sections of the United States. Which section has the largest number of divisions; which the smallest number? How many States are there in each section? In which section do you live? What is the *government* of the United States? (Page 66.) What can you tell about it?

NOTE.—Ask your teacher for a game in which different pupils ask the class questions in regard to States and cities in the different sections. *Illustration:* In which section is the State of Iowa? California? etc.

NEW ENGLAND STATES.

The Manufacturing Section.

Locate this section. Trace its boundaries. Tell **what country**, what group of States, and what **waters** bound it. What lake is on the western **boundary?** What two rivers and what lakes are on the eastern boundary? Trace the shape of this section in the air. Sketch it on the blackboard. Sketch its outline into the map of United States. Name the States which comprise it. Which State is the largest? Which the smallest? Which has no sea-coast? Which border on the sea? Which has very little sea-coast? Find out when this section was settled and something of the hardships of the early settlers. Try to imagine the appearance of the entire section at that time, and compare it with its present appearance.

From the relief map of the United States, pages 120 and 121, tell what highland lies in New England. What name is given the part in New Hampshire? What in Vermont? What in western Massachusetts? Find two peaks in Maine; two in New Hampshire; two in Massachusetts. Name and trace the rivers which flow down the southern slope. Where do many of them rise? Into what do they flow? Name the four largest? Three of these are in which State? Name and trace the rivers which flow down the northern slope. To what great river basin do these northern rivers and Lake Champlain belong? Trace the water-parting between the northern and the southern rivers. Between what mountain ranges does the Connecticut flow? What boundary does it form? Which State has the greatest number of lakes? Tell in which State and to what river basin each of the following lakes belongs—Moosehead, Rangeley, Sebago, Winnepesaukee, Memphremagog. Trace and name any projections or indentations on the coast; also any islands which lie near the coast.

(Locate all cities mentioned in text.)

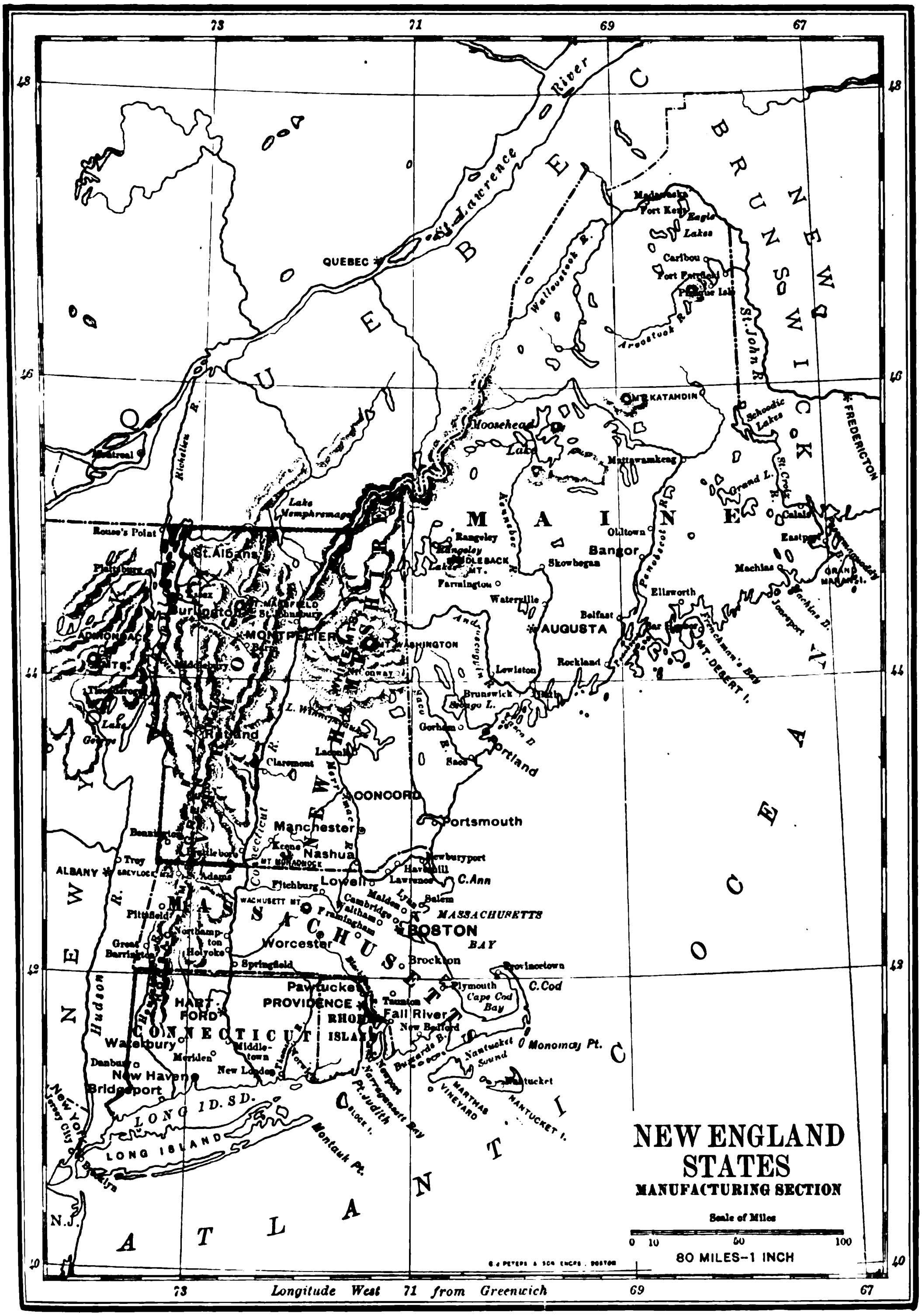
THE CONNECTICUT RIVER AT SPRINGFIELD, MASS.

POWER HOUSE FOR GENERATING ELECTRICITY CONNECTICUT RIVER, SPRINGFIELD, MASS.

PITTSFIELD & GREYLOCK MTS.

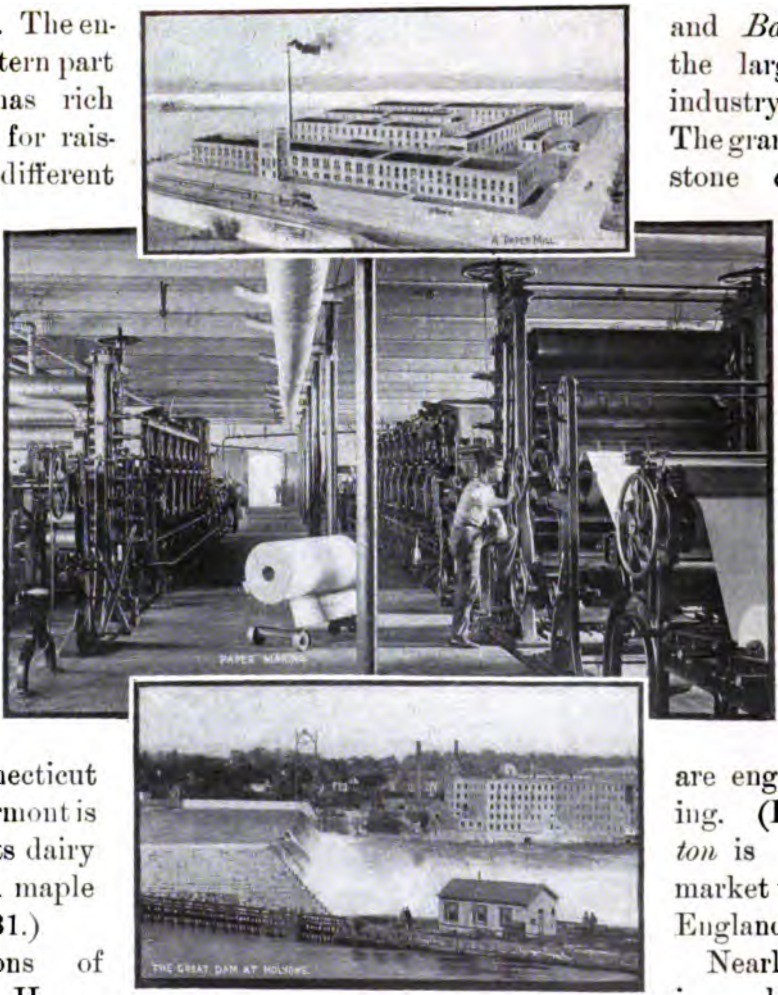
New England has great irregularity of coast, much of it, from Boston northeastward, being high and rocky, while Cape Cod Peninsula and most of the southern coast is low and sandy. The rivers have wide, deep mouths, and there are many deep inlets; hence there are a great number of good harbors. The islands and coast are much visited as summer resorts.

The surface of the entire section is much broken. There are many sandhills and bowlders, which were left by



NEW ENGLAND STATES
MANUFACTURING SECTION

the ice-sheet that once covered this entire section. Most of the surface is too rocky for profitable farming. The soil is not generally fertile, though the valleys of Lake Champlain and many of the rivers contain valuable farming land. The entire northeastern part of Maine has rich soil suitable for raising many different products. Quantities of potatoes are produced here, which supply many of the large cities of the United States. Tobacco is quite extensively cultivated in the Connecticut Valley. Vermont is noted for its dairy products and maple sugar. (P. 31.)



In sections of Maine, New Hampshire, and Vermont lumbering is an important industry. *Bangor* is the center of the lumber trade in Maine, and has steamer communication with Boston and other coast cities. *Burlington*, the largest city in Vermont, has an important lumber trade. There are pulp mills on several of the streams. (P. 60.) Shipbuilding largely engages the people on the Maine coast. *Bath* is especially noted for this industry.

Rutland, Vt., is the center of the largest marble industry, and *Barre, Vt.*, of the largest granite industry in the world. The granite and sandstone quarries of the other States are also extensively worked.

Some of the people, especially on the northeastern and southeastern coasts of Massachusetts, are engaged in fishing. (P. 60.) *Boston* is the leading market for the New England fisheries.

Nearly all the cities and villages of New England are engaged in some kind of manufacturing. The rivers furnish abundant water-power. Coal and iron are brought to these cities by means of boats, and railways from the great mining section of the Middle Atlantic States. (P. 56.) Raw cotton is shipped to this

section from the Southern States. *Fall River* leads all other cities in North America in the manufacture of cotton goods. *Lowell, New Bedford, Manchester*, and *Providence* are also centers for the weaving of cotton goods. *Holyoke* is the leading paper-making city in the world. *Lynn, Brockton*, and *Haverhill* are the leading boot- and shoe-manufacturing centers in the Union. Raw wool is produced in this section to some extent. It is also shipped from other sections of the United States (P. 132), and from Australia, to be made into worsted and woolen goods. *Lawrence* and *Providence* are the leading woolen manufacturing centers. *Worcester* and *Springfield* are important manufacturing, railway, and trade centers.

THE LARGEST RAILWAY STATION IN THE UNITED STATES.

The cities of Connecticut and Rhode Island are noted for the number and variety of their manufactures, especially those of iron and brass. Firearms, bicycles, sewing-machines, clocks, watches, jewelry, and small wares—pins, needles, buttons, etc.—are among the important manufactures. Rubber goods are made in these cities from raw India rubber which is imported from South America. Locate *Pawtucket, New Haven, Bridgeport, Waterbury.*

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Several steamer lines connect the river ports and seaports of New England with New York and other seaports of the Union.

New England was settled by the English; but the factory towns and cities are now crowded with people representing many nationalities. The entire section has good schools, and there are many higher institutions of learning—*Harvard University* in Cambridge, and *Yale University* in New Haven, being the largest and most important.

Name and locate the capital and the largest city of each State. (See supplement.) Name in order the five largest cities of this section? Tell what you can about the different cities.

MIDDLE ATLANTIC STATES.

The Coal and Iron Section.

Trace the boundaries of this section. How many States comprise it? Which is the largest State? Which the smallest? Which States have no sea-coast? Which have very little sea-coast? Tell what country, what State groups, and what waters bound the section. What two lakes and two rivers are on on the Canadian boundary? What large river on the western boundary? What lake on the eastern boundary? Trace the coast line. Name, trace, and locate the projections and indentations on the coast; also the islands which lie near the coast. Which indentations or projections do you think most important? Why? Trace the shape of this section in the air. Sketch it. Sketch it into the outline map of U. S. Trace and name the rivers which flow down the southern and southeastern slopes. Into what does each flow? Which rivers gap the highland? Name the four largest rivers of this slope? Trace the rivers which flow down the northern or northwestern slope. To what two great river systems do they belong? Which is the largest river? Which State has a large number of lakes? To which river system do most of them belong? Trace carefully the great water-parting of this section. Of what great highland does it consist? From the relief map of the United States, tell what names are given to the mountains of this highland. What names are given to the parts of the highland in New York? Which States lie almost wholly in the mountainous parts? Which in the coastal plains? What parts of New York and Pennsylvania are comparatively level?

The mountainous districts are very rough and rocky, with grand and beautiful scenery. There is a great variety of climate in this section, the southern part being much warmer than the northern part. The northern part and the mountains have long cold winters, and delightfully cool summers. The coast is warm in winter and cool in summer. Both the mountains and the sea-coast abound in summer resorts. From the map, page 132, you see that forests are scattered over this entire region. It is heavily wooded, however, only in the northern and mountainous sections. Tell in what parts lumbering is an especial industry. Ship-building largely engages the attention of some of the coast cities—*Philadelphia* having the leading ship-building industry in the United States. If you study the product-maps, pages 130 to 132, you find that this section is largely engaged in farming.

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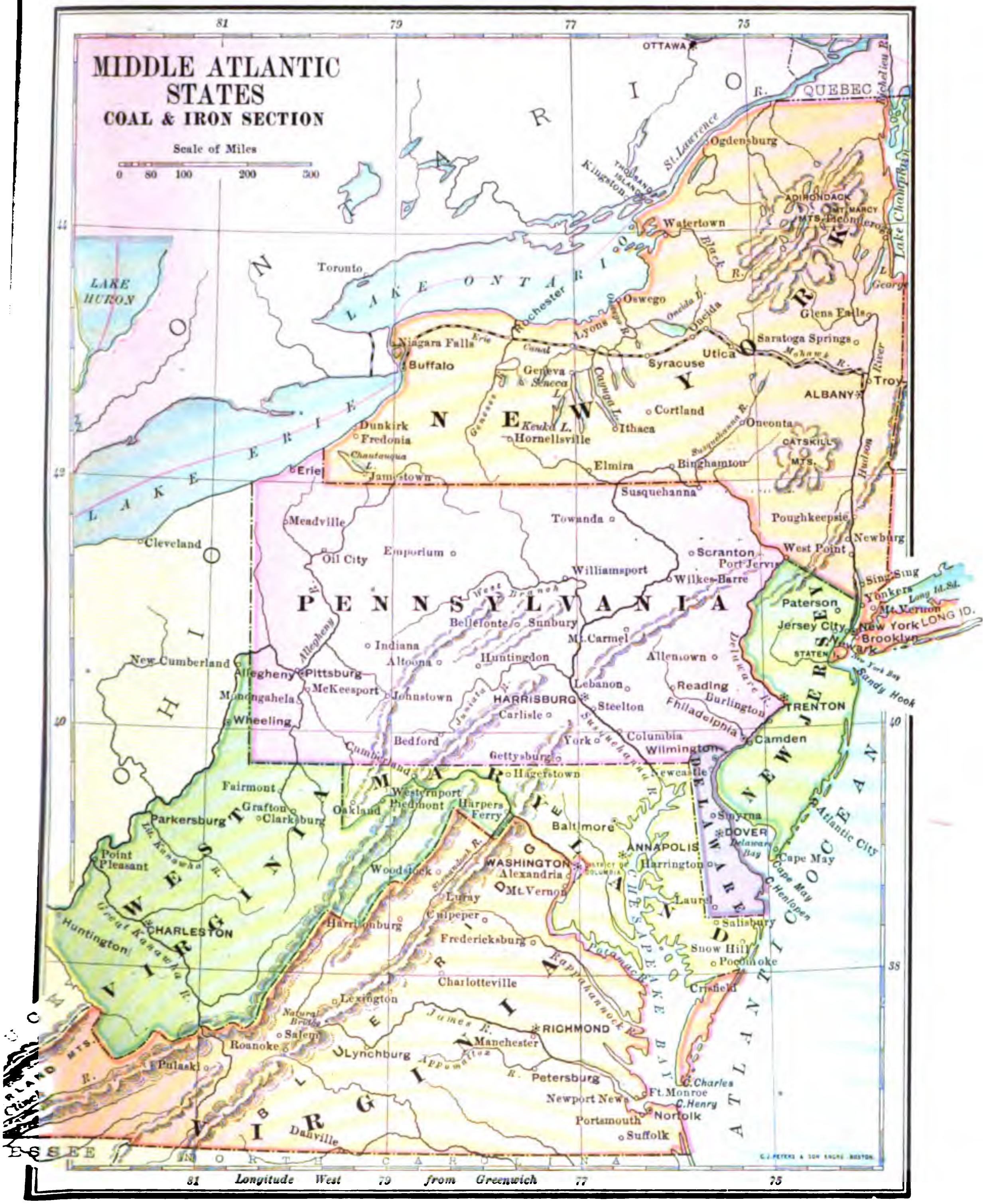
New York State is especially noted for its dairy products and its production of hay and oats. *Rochester* is noted fo its flour-mills and other manufactures It is not far from *Buffalo*, a city which from its location commands much of the trade between the West and the East



MIDDLE ATLANTIC STATES

COAL & IRON SECTION

Fruits of the temperate region are everywhere in abundance—the Coastal Plain furnishing a great many peaches, berries, and melons for the markets of Philadelphia and New York. Which States are engaged in tobacco-raising? What can you tell of tobacco? (Pages 127 and 131.) *Richmond* is the tobacco market for this section, although tobacco is shipped from several of the seaports.

This bridge connects New York and Brooklyn. It is one of the finest engineering feats in the world. (Find out all you can about its construction.)

Fishing is an important industry. The dredging and tonging of oysters is an enormous industry and engages a great number of men. **(Page 61.)**

Twelve thousand boats are annually licensed by the State of Maryland to engage in this industry in the Chesapeake Bay and its tributaries. The season lasts from September to April; during this time from 12,000,000 to 15,000,000 bushels are brought to market, "shucked," and shipped to every city and town in the United States and Canada. What can you tell us of Baltimore? (Page 131.)

The Middle Atlantic States are especially engaged in mining, manufacturing, and commerce.

Note.—The maps, page 133, tell you just what States and localities are especially engaged in mining and the manufactures which grow out of the mining products. For other pictures of this section see pages 55, 63, 64, 65, 66, 67, 84, 86, 96.

Locate the coal, petroleum, and iron regions. The great petroleum region of America lies in this section. What are the products of petroleum? Where are the refineries? (Page 134.) Tell some of the cities which are in the oil regions. Name some in the western or soft-coal region. Natural gas is found in southwestern Pennsylvania; what cities lie in this region?

Scranton and *Wilkes-Barre* are in the heart of the only hard-coal region of any account in the world. *Pittsburg* is the leading center for the manufacture of plate glass in the world. For what else is it noted? (Page 127.) *New York* and *Philadelphia*, the two leading cities in population, are the greatest manufacturing cities in the Union. They are also noted for their printing and book-making industries. Railroads from the North, West, and South carry all kinds of raw products to New York to be made into manufactured products, which are sent back in trade to the different sections as needed. New York has steamship connection with all the great trade centers, and an enormous amount of trade is carried on with all parts of the world. New York is an art and literary center, with several higher institutions of learning—among which are *Columbia University* and

New York University. In addition to manufactures already mentioned, Philadelphia has great iron and steel industries and the largest carpet industries in the world. It is a seaport of importance and has direct steamer communication with many parts of the world. Government navy yards are located at *Brooklyn*, *Norfolk*, and *Washington*. (Page 67.)

NAVAL GUN SHOP, WASHINGTON, D. C.

New York, the "Empire State," is the leading State in the Union in population, wealth, manufactures, and commerce.

Name any lake ports. Trace the Erie Canal. Find out anything you can about it. Are the lake and canal waterways open for the entire year? Trace some of the railroads which connect New York City with other sections; tell what products would be brought to New York? What would be taken in exchange? What can you find out about Washington? How does this section compare in population with the other sections? (Page 134.)

Name and locate the capital of each State. From the table in the Supplement find the largest city of each State.

Albany is important because of its position at the head of navigation on the Hudson, and also as a railway center. *Baltimore* is the seat of *Johns Hopkins University*, the most noted Southern university.

NORTH CENTRAL STATES.

The Northern Agricultural Section.

Trace around this section. Tell how many and what States comprise it. Trace its shape in the air. Sketch it on the board. Sketch it into the map of United States. What country and three State-groups bound it? What lakes and what rivers are on the northern boundary? What large river on the eastern boundary? Which States border the Great Lakes? Which States border Canada? Which States are on the east bank of the Mississippi? Which on the west bank? From the relief map of the United States, tell to what two great river basins most of this section belongs. What two great slopes meet in the channel of the Mississippi River? Trace and name the three largest tributaries of the Mississippi from the east. Trace the rivers which flow into the Ohio from the North. Trace the streams which flow into the Great Lakes. Trace the water parting between the Mississippi and St. Lawrence basins. Trace the water-parting between the Atlantic rivers and the rivers which feed the Ohio from the southeast. Trace the tributaries of the Mississippi from the West. The Plains are broken by what highlands? (Page 123.) Trace the Missouri and its three largest tributaries. Tell through which States and between which States it flows. What can you tell of the Mississippi or of the Missouri? (Page 114.) The northern parts of Minnesota and North Dakota belong to the Hudson Bay Basin. Trace and name the water-partings between this basin and the St. Lawrence and Mississippi basins.

From their position which States must have the colder climate? Which the warmer? How do the Great Lakes affect the climate of the States which adjoin them? (Page 128.)

The entire northern and central portions of this section have extremely cold winters and hot summers. The westerly winds are usually the dry winds. Can you tell why?

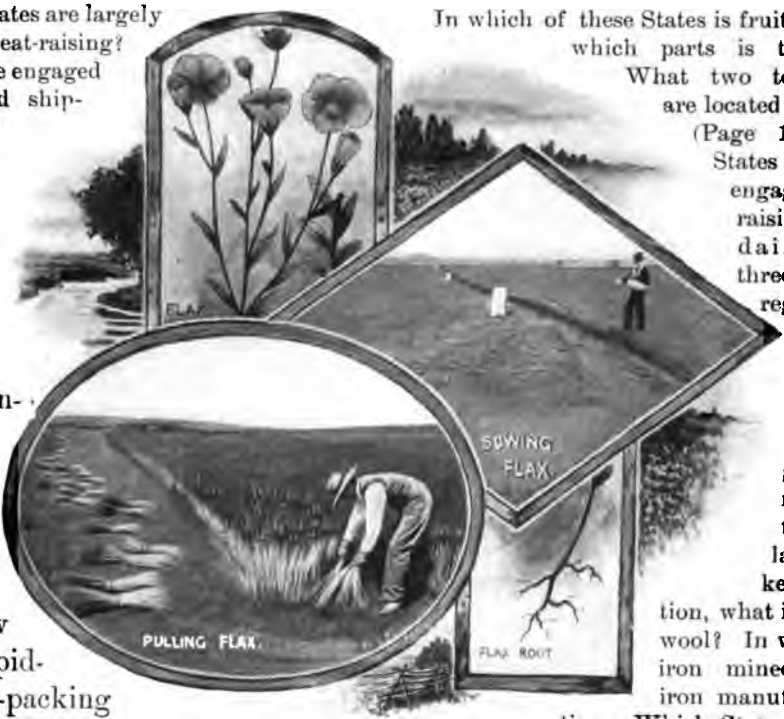
Which is the cold wind of this section? Which the warm wind? Which kind of wind blows from the east? Which part of this section has an uncer-

tain amount of rainfall? (Page 123.) Because of this, in what great industry are the people engaged?

NOTE.—Study maps, pages 130 to 134, inclusive. (The important trade centers of each industry are marked in the map by dots.)

Which parts of this section are engaged in lumbering? In which State are there few or no trees? What two cities are especially engaged in manufacturing furniture and in shipping lumber? (Page 132.) Which States are largely engaged in wheat-raising? Which cities are engaged in making and shipping flour? Which in shipping wheat?

This is the great corn-region of the United States, the intense heat of the summer months causing the corn to grow and ripen rapidly. The pork-packing industry has developed from the great supply of this product. How?



Which are the corn-growing States? Which part of this section raises little or no corn? Name and locate the corn markets. In which States are oats raised in large quantity?

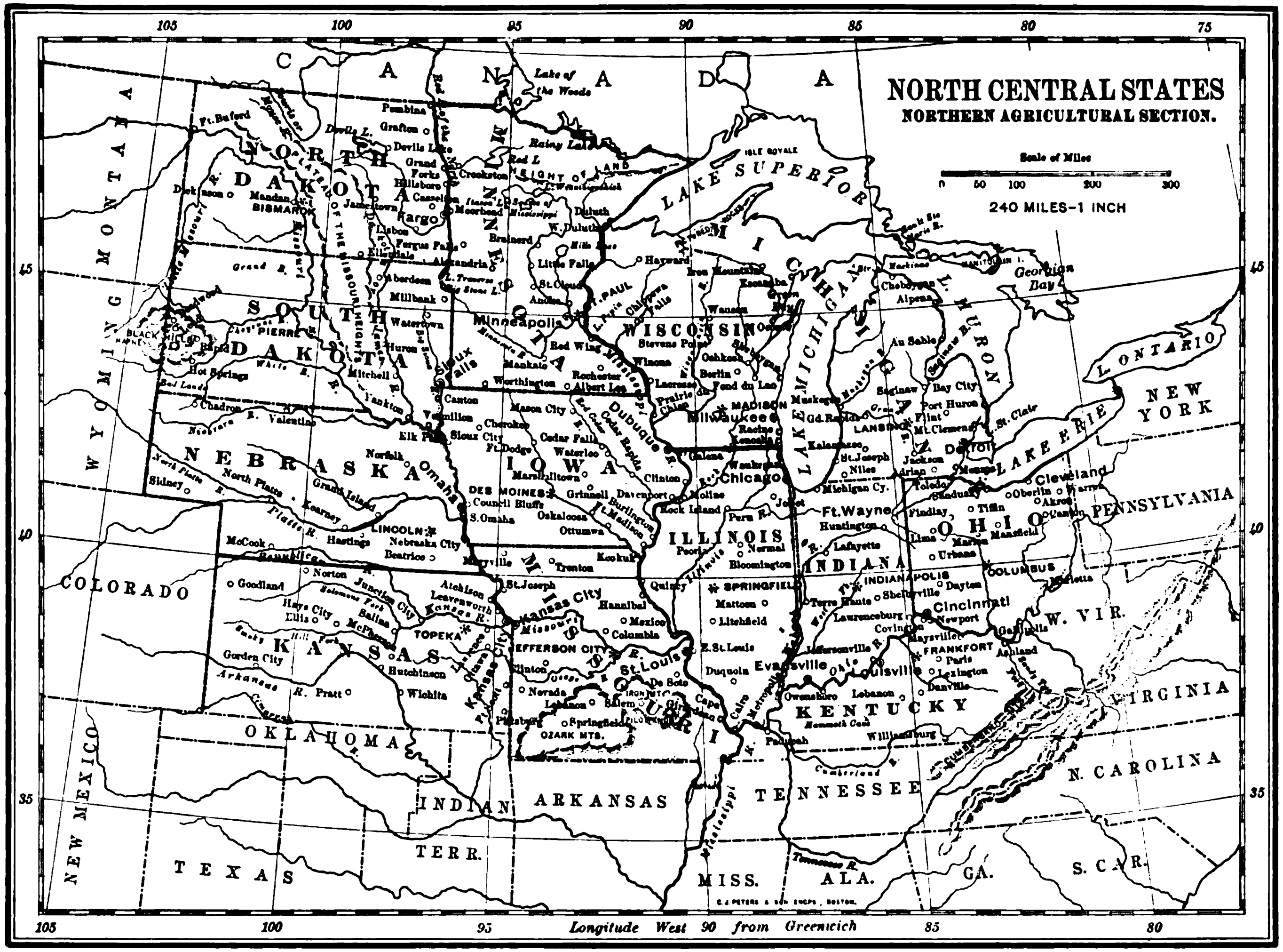
Many farmers of this section are also engaged in raising sugar-beets for the manufacture of beet-sugar.

Flax is being more and more cultivated in this section.

Flax is a plant with a single stem which grows from one to two feet high. It yields several very useful products. The most important product is the fiber or inner bark of the long stem. This fiber is spun and woven into *linen* of all qualities. The shorter fiber, called *tow*, cannot be used for linen, so it is spun into twine and cord. The seed, called *linseed*, yields a valuable oil which is used in mixing paints and in making varnish. After the oil is squeezed out the refuse is pressed into cakes which furnish an excellent food for cattle. The seeds are ground into linseed meal, which is of value in medicine.

In which of these States is fruit abundant? In which parts is tobacco raised? What two tobacco markets are located in this section? (Page 131.) Which States are especially engaged in cattle-raising? Which in dairying? What three cities of this region have great meat markets and packing-houses? (P. 132.) Which States are engaged in sheep-raising? As there are no large wool markets in this section, what is done with the wool? In what localities is iron mined? Locate the iron manufactures of this section. Which States mine considerable coal? In which part is petroleum found. In which part is copper mined?

You see that the various industries connected with agriculture are the leading occupations of this section. The great milling, manufacturing, and trade centers have grown up as a result of these many and various products. The products are shipped to the Atlantic ports, to be sent to other great trade centers. Trace the water and land routes. These products are also sent to the Gulf. By what means? They are


NORTH CENTRAL STATES
NORTHERN AGRICULTURAL SECTION.
Scale of Miles
0 50 100 200 300
240 MILES-1 INCH
Longitude West 90 from Greenwich
105
100
95
90
85
80
75
45
40
35
C A N A D A
Lake of the Woods
Rainy Lake
LAKE SUPERIOR
ISLE ROYALE
L. HURON
Georgian Bay
L. ONTARIO
LAKE ERIE
LAKE MICHIGAN
MONTANA
WYOMING
COLORADO
NEW MEXICO
TEXAS
INDIAN TERR.
OKLAHOMA
ARKANSAS
MISS.
ALA.
GA.
S. CAR.
N. CAROLINA
TENNESSEE
KENTUCKY
VIRGINIA
W. VIR.
PENNSYLVANIA
NEW YORK
OHIO
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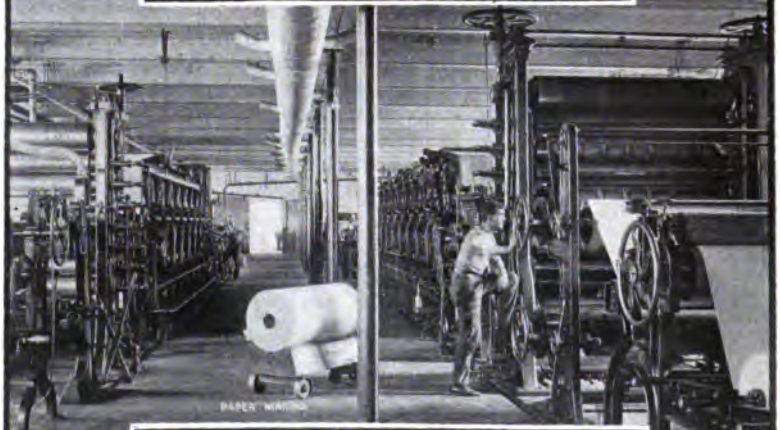
ILLINOIS
MICHIGAN
WISCONSIN
MINNESOTA
IOWA
MISSOURI
KANSAS
NEBRASKA
NORTH DAKOTA
SOUTH DAKOTA
PLATEAU OF THE MISSOURI
HEIGHT OF LAND
BLACK HILLS
OZARK MTS.
Ft. Buford
Dickinson
Mandan
BISMARCK
Pembina
Grafton
Devils L.
Devils Lake
Grand Forks
Hillsboro
Jamestown
Casselton
Fargo
Moorhead
Lisbon
Fergus Falls
Ellendale
Aberdeen
Millbank
Watertown
Huron
Mitchell
Yankton
PIERRE
Rapid
Hot Springs
Bad Lands
Chadron
Valentine
Sioux Falls
Canton
Vermillion
Elk Pt.
Sioux City
Norfolk
Omaha
Grand Island
North Platte
Kearney
Sidney
McCook
Hastings
LINCOLN
Nebraska City
Beatrice
Crookston
Duluth
W. Duluth
Brainerd
Alexandria
Little Falls
St. Cloud
Anoka
Minneapolis
ST. PAUL
Red Wing
Mankato
Winona
Rochester
Albert Lea
Worthington
Hayward
Chippewa Falls
Stevens Point
Wausau
Oshkosh
Berlin
Fond du Lac
Lacrosse
Prairie du Chien
MADISON
Milwaukee
Racine
Kenosha
Escanaba
Green Bay
Cheboygan
Alpena
Au Sable
Saginaw
Bay City
Port Huron
Flint
Mt. Clemens
LANSING
Gd. Rapids
Muskegon
Kalamazoo
St. Joseph
Niles
Jackson
Adrian
Detroit
Monroe
Toledo
Sandusky
Cleveland
Oberlin
Akron
Canton
Tiffin
Findlay
Lima
Marion
Mansfield
Urbana
COLUMBUS
Marietta
Dayton
Cincinnati
Gallipolis
Ashland
Mason City
Cherokee
Ft. Dodge
Cedar Falls
Waterloo
Marshalltown
Grinnell
DES MOINES
Council Bluffs
S. Omaha
Oskaloosa
Ottumwa
Dubuque
Cedar Rapids
Clinton
Davenport
Burlington
Ft. Madison
Keokuk
Galena
Rock Island
Moline
Chicago
Joliet
Peoria
Normal
Bloomington
Quincy
SPRINGFIELD
Mattoon
Litchfield
E. St. Louis
Duquoin
Cairo
Michigan Cy.
Ft. Wayne
Huntington
Lafayette
INDIANAPOLIS
Terre Haute
Shelbyville
Lawrenceburg
Jeffersonville
Evansville
Covington
Newport
Maysville
FRANKFORT
Paris
Lexington
Danville
Louisville
Owensboro
Lebanon
Paducah
Williamsburg
Mammoth Cave
Maryville
Trenton
St. Joseph
Kansas City
Hannibal
Mexico
Columbia
JEFFERSON CITY
St. Louis
De Soto
Clinton
Nevada
Lebanon
Salem
Springfield
Pittsburg
Atchison
Leavenworth
TOPEKA
Junction City
Salina
McPherson
Hutchinson
Wichita
Norton
Hays City
Ellis
Goodland
Garden City
Pratt
Platte R.
Missouri R.
Kansas R.
Arkansas R.
Cimarron R.
Ohio R.
Mississippi R.
Tennessee R.
Cumberland R.
White R.
Grand R.
C. J. PETERS & SON ENGR'S. BOSTON.

the ice-sheet that once covered this entire section. Most of the surface is too rocky for profitable farming. The soil is not generally fertile, though the valleys of Lake Champlain and many of the rivers contain valuable farming land. The entire northeastern part of Maine has rich soil suitable for raising many different products. Quantities of potatoes are produced here, which supply many of the large cities of the United States. Tobacco is quite extensively cultivated in the Connecticut Valley. Vermont is noted for its dairy products and maple sugar. (P. 31.)

A PAPER MILL


PAPER MAKING

THE GREAT DAM AT HOLYOKE

In sections of Maine, New Hampshire, and Vermont lumbering is an important industry. *Bangor* is the center of the lumber trade in Maine, and has steamer communication with Boston and other coast cities. *Burlington*, the largest city in Vermont, has an important lumber trade. There are pulp mills on several of the streams. (P. 60.) Shipbuilding largely engages the people on the Maine coast. *Bath* is especially noted for this industry.

Rutland, Vt., is the center of the largest marble industry, and *Barre, Vt.*, of the largest granite industry in the world. The granite and sandstone quarries of the other States are also extensively worked.

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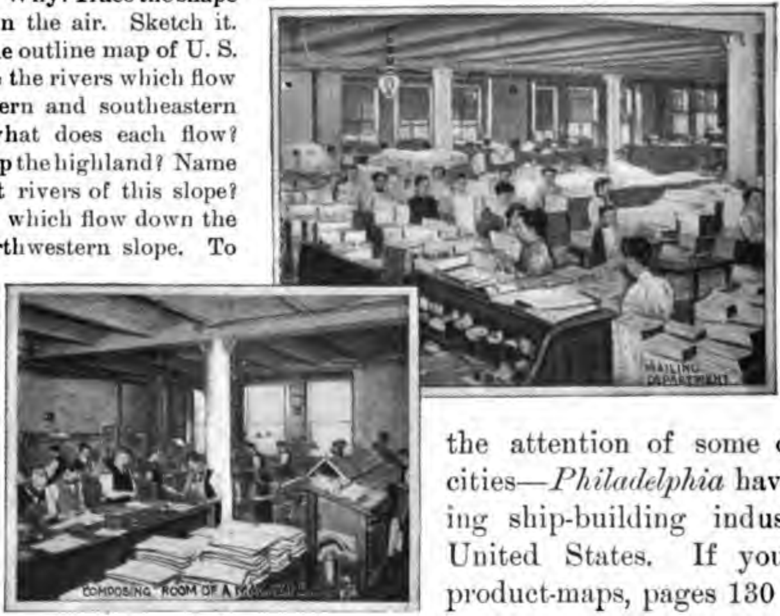

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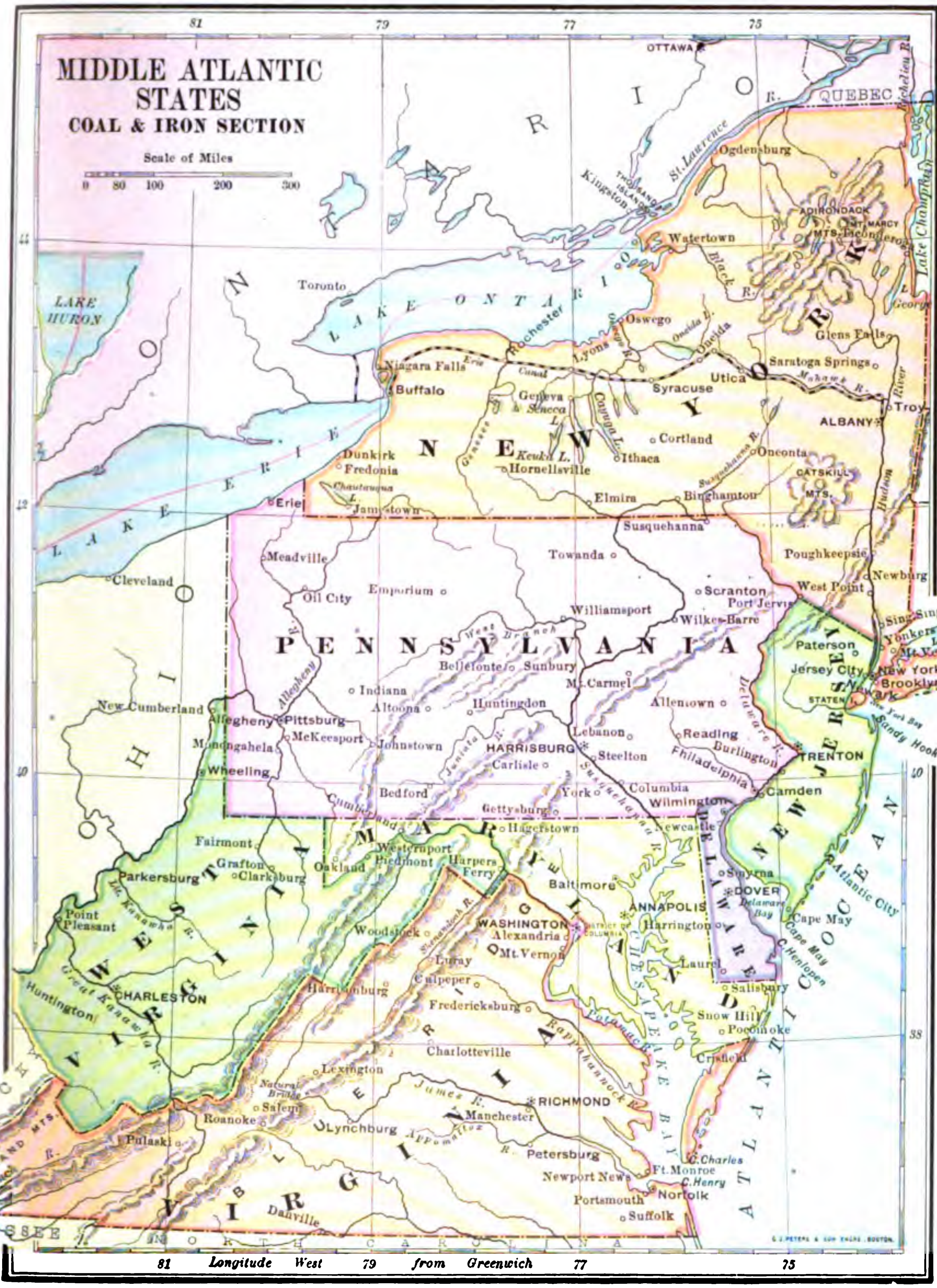

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COAL & IRON SECTION

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tain amount of rainfall? (Page 123.) Because of this, in what great industry are the people engaged?

Note.—Study maps, pages 130 to 134, inclusive. (The important trade centers of each industry are marked in the map by dots.)

Which parts of this section are engaged in lumbering? In which State are there few or no trees? What two cities are especially engaged in manufacturing furniture and in shipping lumber? (Page 132.) Which States are largely engaged in wheat-raising? Which cities are engaged in making and shipping flour? Which in shipping wheat?

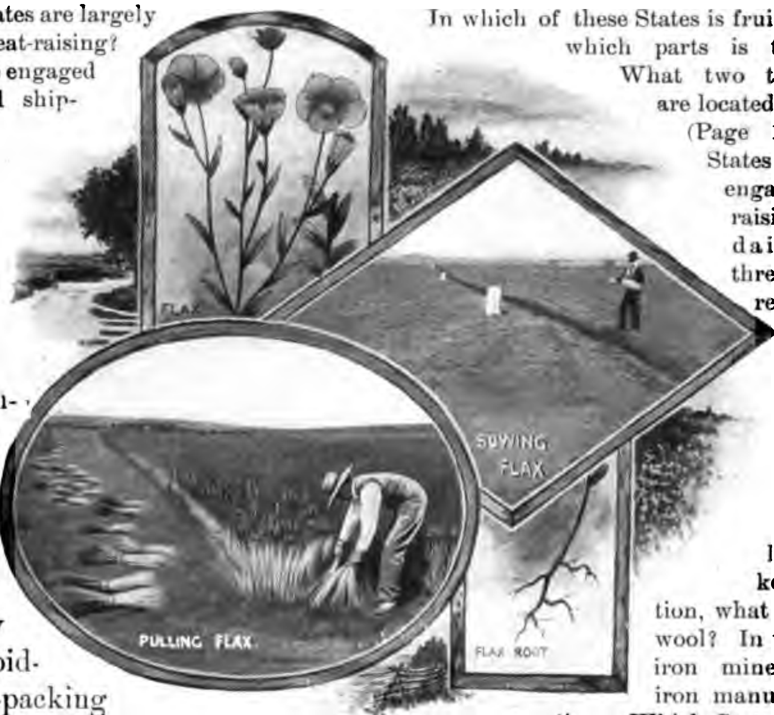
This is the great corn-region of the United States, the intense heat of the summer months causing the corn to grow and ripen rapidly. The pork-packing industry has developed from the great supply of this product. How?

Which are the corn-growing States? Which part of this section raises little or no corn? Name and locate the corn markets. In which States are oats raised in large quantity?

Many farmers of this section are also engaged in raising sugar-beets for the manufacture of beet-sugar.

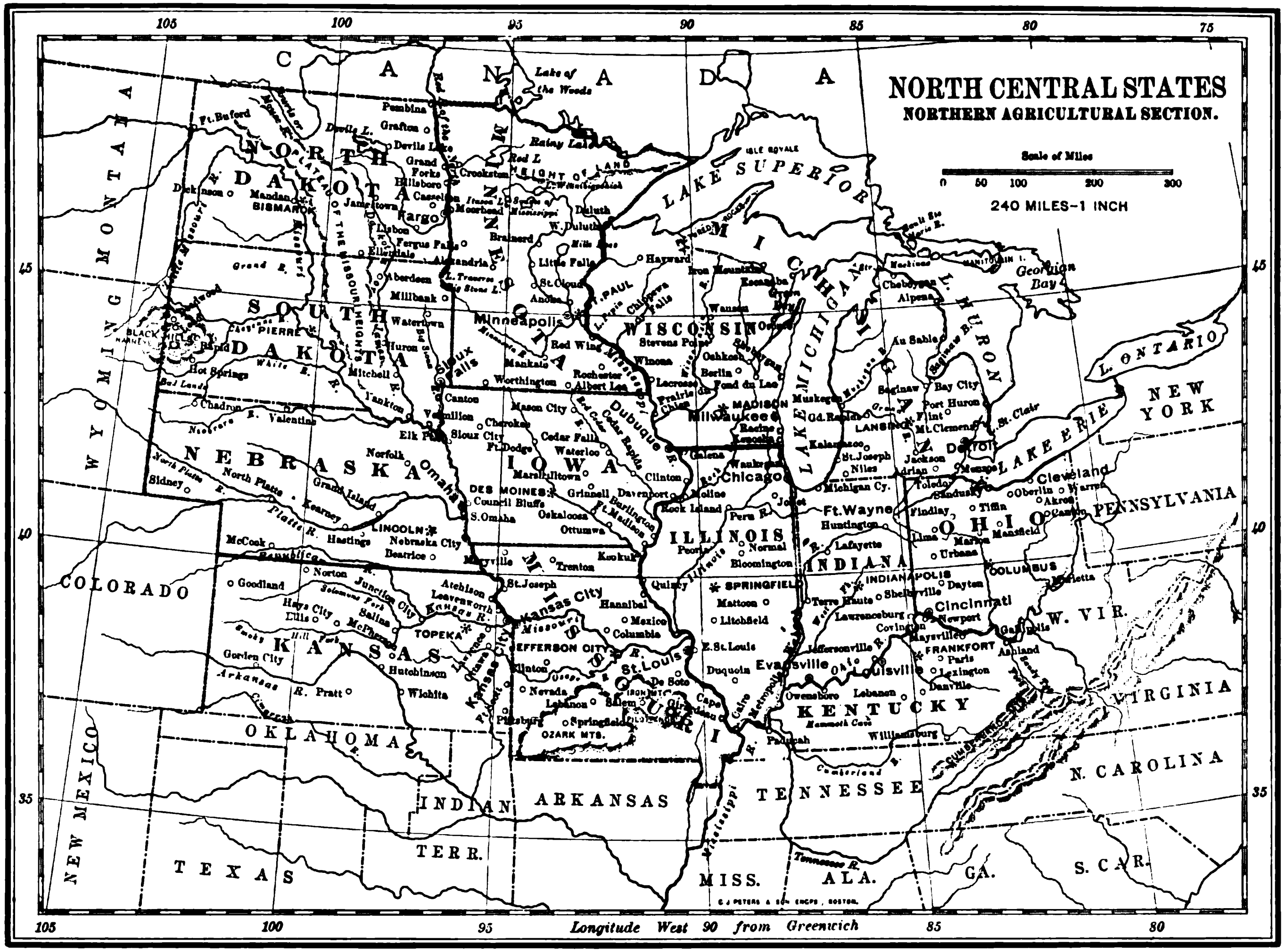
Flax is being more and more cultivated in this section.

Flax is a plant with a single stem which grows from one to two feet high. It yields several very useful products. The most important product is the fiber or inner bark of the long stem. This fiber is spun and woven into *linen* of all qualities. The shorter fiber, called *tow*, cannot be used for linen, so it is spun into twine and cord. The seed, called *linseed*, yields a valuable oil which is used in mixing paints and in making varnish. After the oil is squeezed out the refuse is pressed into cakes which furnish an excellent food for cattle. The seeds are ground into linseed meal, which is of value in medicine.



In which of these States is fruit abundant? In which parts is tobacco raised? What two tobacco markets are located in this section? (Page 131.) Which States are especially engaged in cattle-raising? Which in dairying? What three cities of this region have great meat markets and packing-houses? (P. 132.) Which States are engaged in sheep-raising? As there are no large wool markets in this section, what is done with the wool? In what localities is iron mined? Locate the iron manufactures of this section. Which States mine considerable coal? In which part is petroleum found. In which part is copper mined?

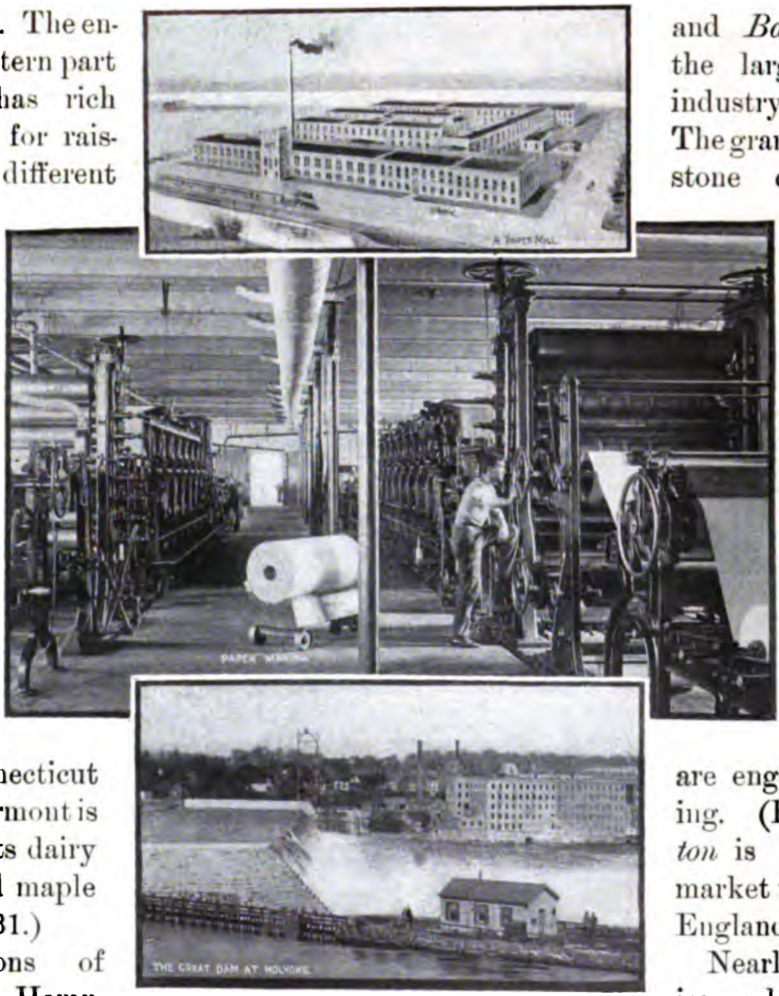
You see that the various industries connected with agriculture are the leading occupations of this section. The great milling, manufacturing, and trade centers have grown up as a result of these many and various products. The products are shipped to the Atlantic ports, to be sent to other great trade centers. Trace the water and land routes. These products are also sent to the Gulf. By what means? They are



NORTH CENTRAL STATES

NORTHERN AGRICULTURAL SECTION.

the ice-sheet that once covered this entire section. Most of the surface is too rocky for profitable farming. The soil is not generally fertile, though the valleys of Lake Champlain and many of the rivers contain valuable farming land. The entire northeastern part of Maine has rich soil suitable for raising many different products. Quantities of potatoes are produced here, which supply many of the large cities of the United States. Tobacco is quite extensively cultivated in the Connecticut Valley. Vermont is noted for its dairy products and maple sugar. (P. 31.)



In sections of Maine, New Hampshire, and Vermont lumbering is an important industry. *Bangor* is the center of the lumber trade in Maine, and has steamer communication with Boston and other coast cities. *Burlington*, the largest city in Vermont, has an important lumber trade. There are pulp mills on several of the streams. (P. 60.) Shipbuilding largely engages the people on the Maine coast. *Bath* is especially noted for this industry.

Rutland, Vt., is the center of the largest marble industry, and *Barre, Vt.*, of the largest granite industry in the world. The granite and sandstone quarries of the other States are also extensively worked.

Some of the people, especially on the northeastern and southeastern coasts of Massachusetts, are engaged in fishing. (P. 60.) *Boston* is the leading market for the New England fisheries.

Nearly all the cities and villages of New England are engaged in some kind of manufacturing. The rivers furnish abundant water-power. Coal and iron are brought to these cities by means of boats, and railways from the great mining section of the Middle Atlantic States. (P. 56.) Raw cotton is shipped to this

section from the Southern States. *Fall River* leads all other cities in North America in the manufacture of cotton goods. *Lowell, New Bedford, Manchester*, and *Providence* are also centers for the weaving of cotton goods. *Holyoke* is the leading paper-making city in the world. *Lynn, Brockton*, and *Haverhill* are the leading boot- and shoe-manufacturing centers in the Union. Raw wool is produced in this section to some extent. It is also shipped from other sections of the United States (P. 132), and from Australia, to be made into worsted and woolen goods. *Lawrence* and *Providence* are the leading woolen manufacturing centers. *Worcester* and *Springfield* are important manufacturing, railway, and trade centers.

THE LARGEST RAILWAY STATION IN THE UNITED STATES.

The cities of Connecticut and Rhode Island are noted for the number and variety of their manufactures, especially those of iron and brass. Firearms, bicycles, sewing-machines, clocks, watches, jewelry, and small wares—pins, needles, buttons, etc.—are among the important manufactures. Rubber goods are made in these cities from raw India rubber which is imported from South America. Locate *Pawtucket, New Haven, Bridgeport, Waterbury.*

Boston and *Portland* possess the two largest of the many fine harbors of New England. Boston is the largest city in New England, and the fifth in size in the United States. It is connected by railroads with all the important industrial centers of the Union, and has steamer communication with the commercial centers of the world. It is also an important literary and art center. *Providence* is the second largest city of this section.

Several steamer lines connect the river ports and seaports of New England with New York and other seaports of the Union.

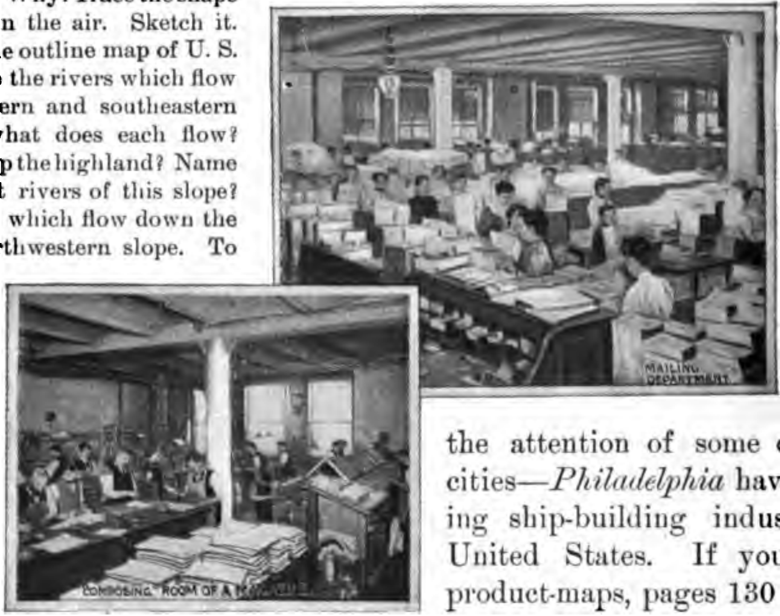
New England was settled by the English; but the factory towns and cities are now crowded with people representing many nationalities. The entire section has good schools, and there are many higher institutions of learning—*Harvard University* in Cambridge, and *Yale University* in New Haven, being the largest and most important.

Name and locate the capital and the largest city of each State. (See supplement.) Name in order the five largest cities of this section? Tell what you can about the different cities.

MIDDLE ATLANTIC STATES.

The Coal and Iron Section.

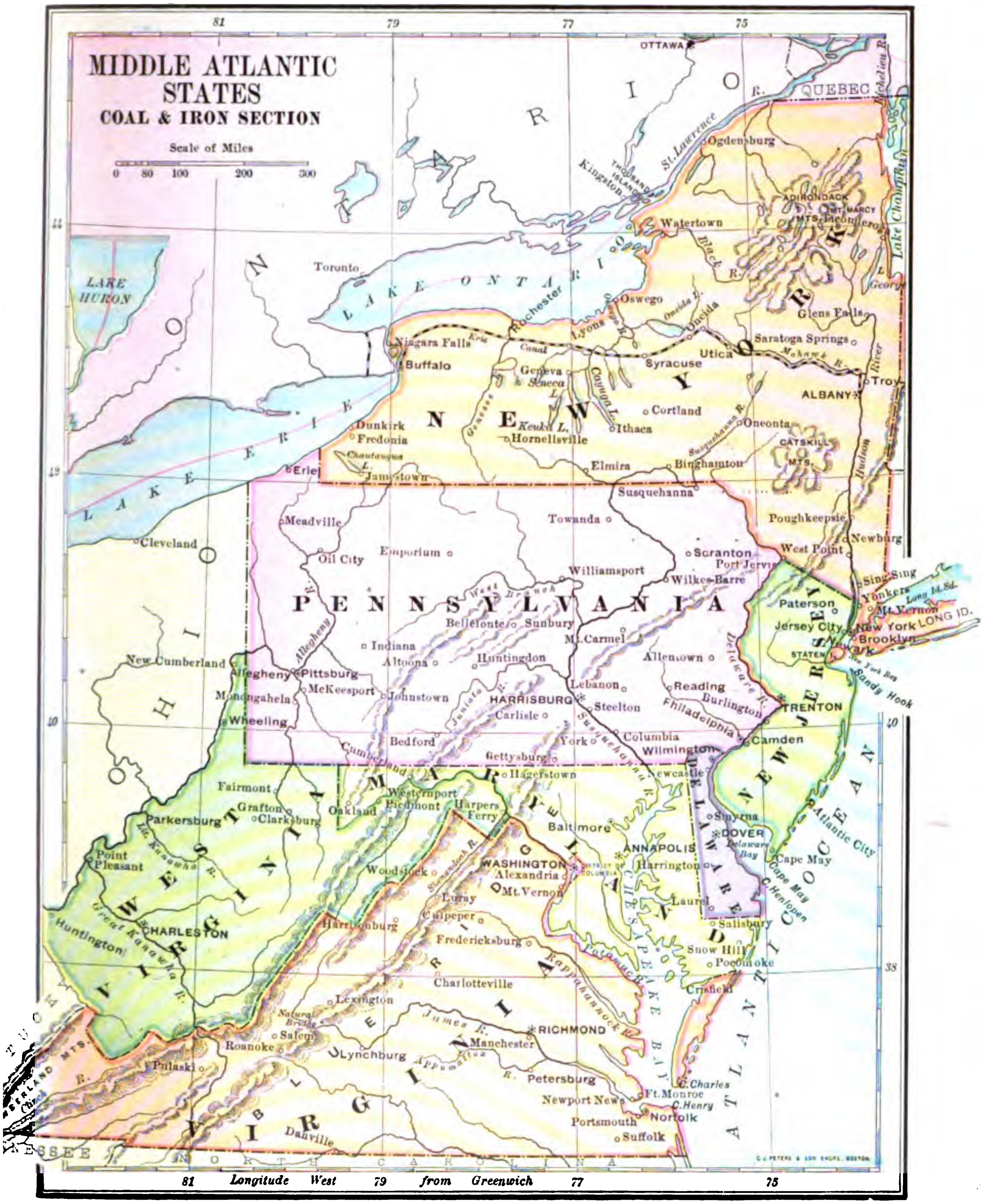
Trace the boundaries of this section. How many States comprise it? Which is the largest State? Which the smallest? Which States have no sea-coast? Which have very little sea-coast? Tell what country, what State groups, and what waters bound the section. What two lakes and two rivers are on on the Canadian boundary? What large river on the western boundary? What lake on the eastern boundary? Trace the coast line. Name, trace, and locate the projections and indentations on the coast; also the islands which lie near the coast. Which indentations or projections do you think most important? Why? Trace the shape of this section in the air. Sketch it. Sketch it into the outline map of U. S. Trace and name the rivers which flow down the southern and southeastern slopes. Into what does each flow? Which rivers gap the highland? Name the four largest rivers of this slope? Trace the rivers which flow down the northern or northwestern slope. To what two great river systems do they belong? Which is the largest river? Which State has a large number of lakes? To which river system do most of them belong? Trace carefully the great water-parting of this section. Of what great highland does it consist? From the relief map of the United States, tell what names are given to the mountains of this highland. What names are given to the parts of the highland in New York? Which States lie almost wholly in the mountainous parts? Which in the coastal plains? What parts of New York and Pennsylvania are comparatively level?



The mountainous districts are very rough and rocky, with grand and beautiful scenery. There is a great variety of climate in this section, the southern part being much warmer than the northern part. The northern part and the mountains have long cold winters, and delightfully cool summers. The coast is warm in winter and cool in summer. Both the mountains and the sea-coast abound in summer resorts. From the map, page 132, you see that forests are scattered over this entire region. It is heavily wooded, however, only in the northern and mountainous sections. Tell in what parts lumbering is an especial industry. Ship-building largely engages the attention of some of the coast cities—*Philadelphia* having the leading ship-building industry in the United States. If you study the product-maps, pages 130 to 132, you find that this section is largely engaged in farming.

Tell which of these States produce the leading food grains. Which States are engaged in dairying? Which in sheep-raising or woolen manufacturing?

New York State is especially noted for its dairy products and its production of hay and oats. *Rochester* is noted for its flour-mills and other manufactures. It is not far from *Buffalo*, a city which from its location commands much of the trade between the West and the East.



MIDDLE ATLANTIC STATES
COAL & IRON SECTION

Fruits of the temperate region are everywhere in abundance—the Coastal Plain furnishing a great many peaches, berries, and melons for the markets of Philadelphia and New York. Which States are engaged in tobacco-raising? What can you tell of tobacco? (Pages 127 and 131.) *Richmond* is the tobacco market for this section, although tobacco is shipped from several of the seaports.

This bridge connects New York and Brooklyn. It is one of the finest engineering feats in the world. (Find out all you can about its construction.)

Fishing is an important industry. The dredging and tonging of oysters is an enormous industry and engages a great number of men. (Page 61.)

Twelve thousand boats are annually licensed by the State of Maryland to engage in this industry in the Chesapeake Bay and its tributaries. The season lasts from September to April; during this time from 12,000,000 to 15,000,000 bushels are brought to market, "shucked," and shipped to every city and town in the United States and Canada. What can you tell us of Baltimore? (Page 131.)

The Middle Atlantic States are especially engaged in mining, manufacturing, and commerce.

NOTE. -The maps, page 133, tell you just what States and localities are especially engaged in mining and the manufactures which grow out of the mining products. For other pictures of this section see pages 55, 63, 64, 65, 66, 67, 84, 86, 96.

Locate the coal, petroleum, and iron regions. The great petroleum region of America lies in this section. What are the products of petroleum? Where are the refineries? (Page 134.) Tell some of the cities which are in the oil regions. Name some in the western or soft-coal region. Natural gas is found in southwestern Pennsylvania; what cities lie in this region?

Scranton and *Wilkes-Barre* are in the heart of the only hard-coal region of any account in the world. *Pittsburg* is the leading center for the manufacture of plate glass in the world. For what else is it noted? (Page 127.) *New York* and *Philadelphia*, the two leading cities in population, are the greatest manufacturing cities in the Union. They are also noted for their printing and book-making industries. Railroads from the North, West, and South carry all kinds of raw products to New York to be made into manufactured products, which are sent back in trade to the different sections as needed. New York has steamship connection with all the great trade centers, and an enormous amount of trade is carried on with all parts of the world. New York is an art and literary center, with several higher institutions of learning—among which are *Columbia University* and

New York University. In addition to manufactures already mentioned, Philadelphia has great iron and steel industries and the largest carpet industries in the world. It is a seaport of importance and has direct steamer communication with many parts of the world. Government navy yards are located at *Brooklyn*, *Norfolk*, and *Washington*. (Page 67.)

NAVAL GUN SHOP WASHINGTON, D. C.

New York, the "Empire State," is the leading State in the Union in population, wealth, manufactures, and commerce.

Name any lake ports. Trace the Erie Canal. Find out anything you can about it. Are the lake and canal waterways open for the entire year? Trace some of the railroads which connect New York City with other sections; tell what products would be brought to New York? What would be taken in exchange? What can you find out about Washington? How does this section compare in population with the other sections? (Page 134.)

Name and locate the capital of each State. From the table in the Supplement find the largest city of each State.

Albany is important because of its position at the head of navigation on the Hudson, and also as a railway center. *Baltimore* is the seat of *Johns Hopkins University*, the most noted Southern university.

NORTH CENTRAL STATES.

The Northern Agricultural Section.

Trace around this section. Tell how many and what States comprise it. Trace its shape in the air. Sketch it on the board. Sketch it into the map of United States. What country and three State-groups bound it? What lakes and what rivers are on the northern boundary? What large river on the eastern boundary? Which States border the Great Lakes? Which States border Canada? Which States are on the east bank of the Mississippi? Which on the west bank? From the relief map of the United States, tell to what two great river basins most of this section belongs. What two great slopes meet in the channel of the Mississippi River? Trace and name the three largest tributaries of the Mississippi from the east. Trace the rivers which flow into the Ohio from the North. Trace the streams which flow into the Great Lakes. Trace the water parting between the Mississippi and St. Lawrence basins. Trace the water-parting between the Atlantic rivers and the rivers which feed the Ohio from the southeast. Trace the tributaries of the Mississippi from the West. The Plains are broken by what highlands? (Page 123.) Trace the Missouri and its three largest tributaries. Tell through which States and between which States it flows. What can you tell of the Mississippi or of the Missouri? (Page 114.) The northern parts of Minnesota and North Dakota belong to the Hudson Bay Basin. Trace and name the water-partings between this basin and the St. Lawrence and Mississippi basins.

From their position which States must have the colder climate? Which the warmer? How do the Great Lakes affect the climate of the States which adjoin them? (Page 128.)

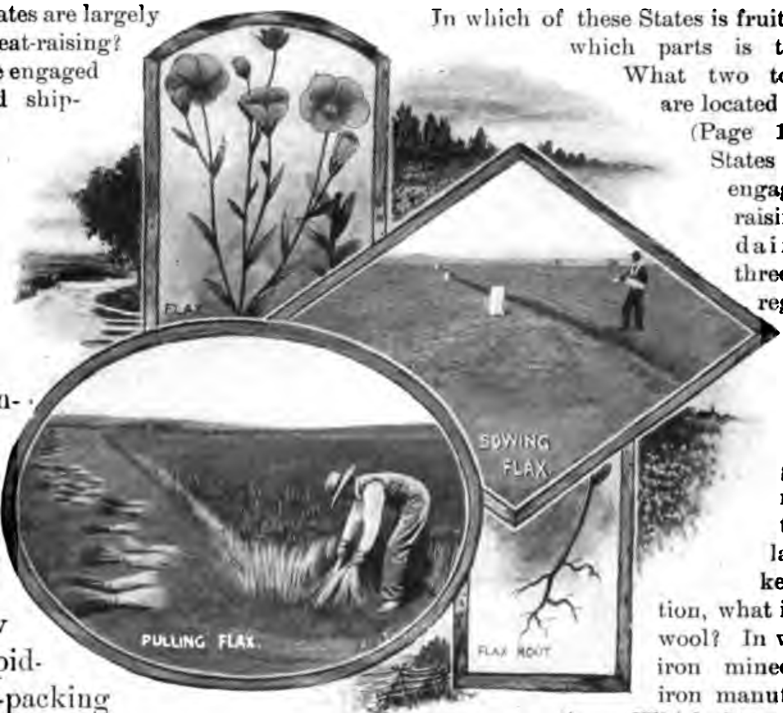
The entire northern and central portions of this section have extremely cold winters and hot summers. The westerly winds are usually the dry winds. Can you tell why?

Which is the cold wind of this section? Which the warm wind? Which kind of wind blows from the east? Which part of this section has an uncer-

tain amount of rainfall? (Page 123.) Because of this, in what great industry are the people engaged?

Note.—Study maps, pages 130 to 134, inclusive. (The important trade centers of each industry are marked in the map by dots.)

Which parts of this section are engaged in lumbering? In which State are there few or no trees? What two cities are especially engaged in manufacturing furniture and in shipping lumber? (Page 132.) Which States are largely engaged in wheat-raising? Which cities are engaged in making and shipping flour? Which in shipping wheat?



This is the great corn-region of the United States, the intense heat of the summer months causing the corn to grow and ripen rapidly. The pork-packing industry has developed from the great supply of this product. How?

Which are the corn-growing States? Which part of this section raises little or no corn? Name and locate the corn markets. In which States are oats raised in large quantity?

Many farmers of this section are also engaged in raising sugar-beets for the manufacture of beet-sugar.

Flax is being more and more cultivated in this section.

Flax is a plant with a single stem which grows from one to two feet high. It yields several very useful products. The most important product is the fiber or inner bark of the long stem. This fiber is spun and woven into *linen* of all qualities. The shorter fiber, called *tow*, cannot be used for linen, so it is spun into twine and cord. The seed, called *linseed*, yields a valuable oil which is used in mixing paints and in making varnish. After the oil is squeezed out the refuse is pressed into cakes which furnish an excellent food for cattle. The seeds are ground into linseed meal, which is of value in medicine.

In which of these States is fruit abundant? In which parts is tobacco raised? What two tobacco markets are located in this section? (Page 131.) Which States are especially engaged in cattle-raising? Which in dairying? What three cities of this region have great meat markets and packing-houses? (P. 132.) Which States are engaged in sheep-raising? As there are no large wool markets in this section, what is done with the wool? In what localities is iron mined? Locate the iron manufactures of this section. Which States mine considerable coal? In which part is petroleum found. In which part is copper mined?

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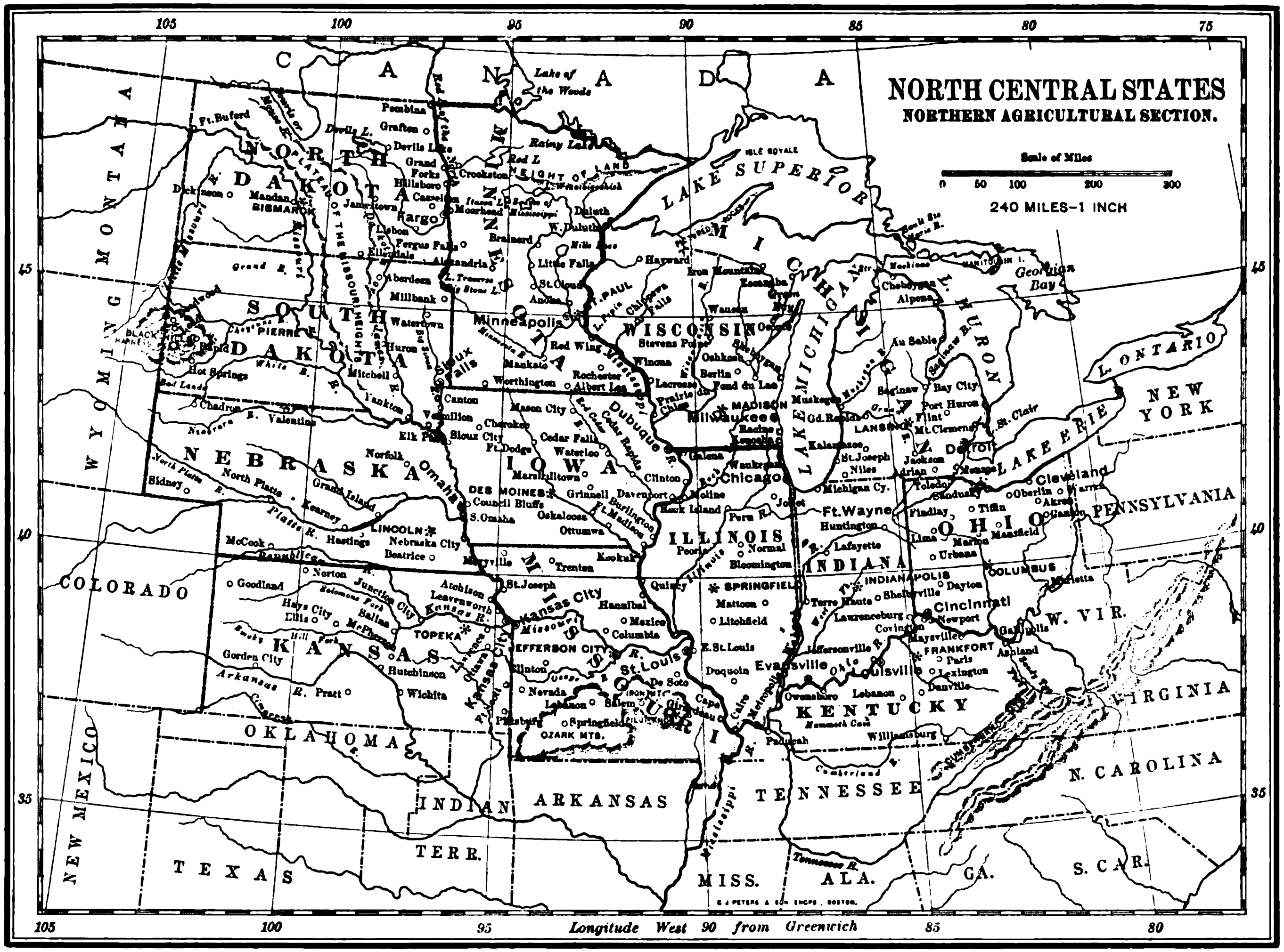

NORTH CENTRAL STATES
NORTHERN AGRICULTURAL SECTION.
Scale of Miles
0 50 100 200 300
240 MILES-1 INCH
CANADA
NORTH DAKOTA
SOUTH DAKOTA
MINNESOTA
WISCONSIN
MICHIGAN
IOWA
NEBRASKA
KANSAS
MISSOURI
ILLINOIS
INDIANA
OHIO
KENTUCKY
TENNESSEE
ARKANSAS
INDIAN TERR.
OKLAHOMA
TEXAS
NEW MEXICO
COLORADO
WYOMING
MONTANA
PENNSYLVANIA
NEW YORK
W. VIR.
VIRGINIA
N. CAROLINA
S. CAR.
GA.
ALA.
MISS.
LAKE SUPERIOR
LAKE MICHIGAN
L. HURON
LAKE ERIE
L. ONTARIO
Georgian Bay
Lake of the Woods
Rainy Lake
HEIGHT OF LAND
PLATEAU OF THE MISSOURI
BLACK HILLS
OZARK MTS.
BISMARCK
PIERRE
Fargo
Minneapolis
ST. PAUL
Duluth
Milwaukee
MADISON
Chicago
SPRINGFIELD
INDIANAPOLIS
COLUMBUS
Cincinnati
Cleveland
Detroit
LANSING
DES MOINES
Dubuque
Omaha
LINCOLN
TOPEKA
Kansas City
JEFFERSON CITY
St. Louis
Louisville
FRANKFORT
Evansville
Ft. Wayne
Sioux Falls
Longitude West 90 from Greenwich
105
100
95
90
85
80
75
45
40
35
E. J. PETERS & SON ENGRS., BOSTON.

also sent to the Pacific ports, to be shipped to our Pacific possessions and to other parts of the world.

Trace the railroad routes between different large cities. Take imaginary journeys up the Mississippi, the Ohio, and the Missouri, and tell what large cities you would pass. Also tell in what particular occupations you would find the people engaged. Many nationalities are represented in this section, as well as in almost all sections of our country. Take imaginary journeys around, and through the Great Lakes. In what various pursuits would you find the people engaged? Name and locate one large city on Lake Superior, two on Lake Michigan, one on Lake St. Clair, one on Lake Erie. Name one important city on the Ohio in each of the following States: Ohio, Kentucky, Indiana. Name an important city on the Mississippi in each of the following States: Missouri, Iowa, Minnesota. Name an important city on the Missouri in each of the following States: Missouri, Kansas, Nebraska. What three capital cities are on the Missouri? Name and locate the other capital cities of this section. *St. Louis* is the fourth city in size in the Union. Tell all you can of *Chicago*, the largest city in this section.

Judging from the number of cities, which parts of this section have the greatest number of people? Which parts have the fewest people? What part of each State is most thickly settled?

TOBACCO FACTORIES, ST. LOUIS.

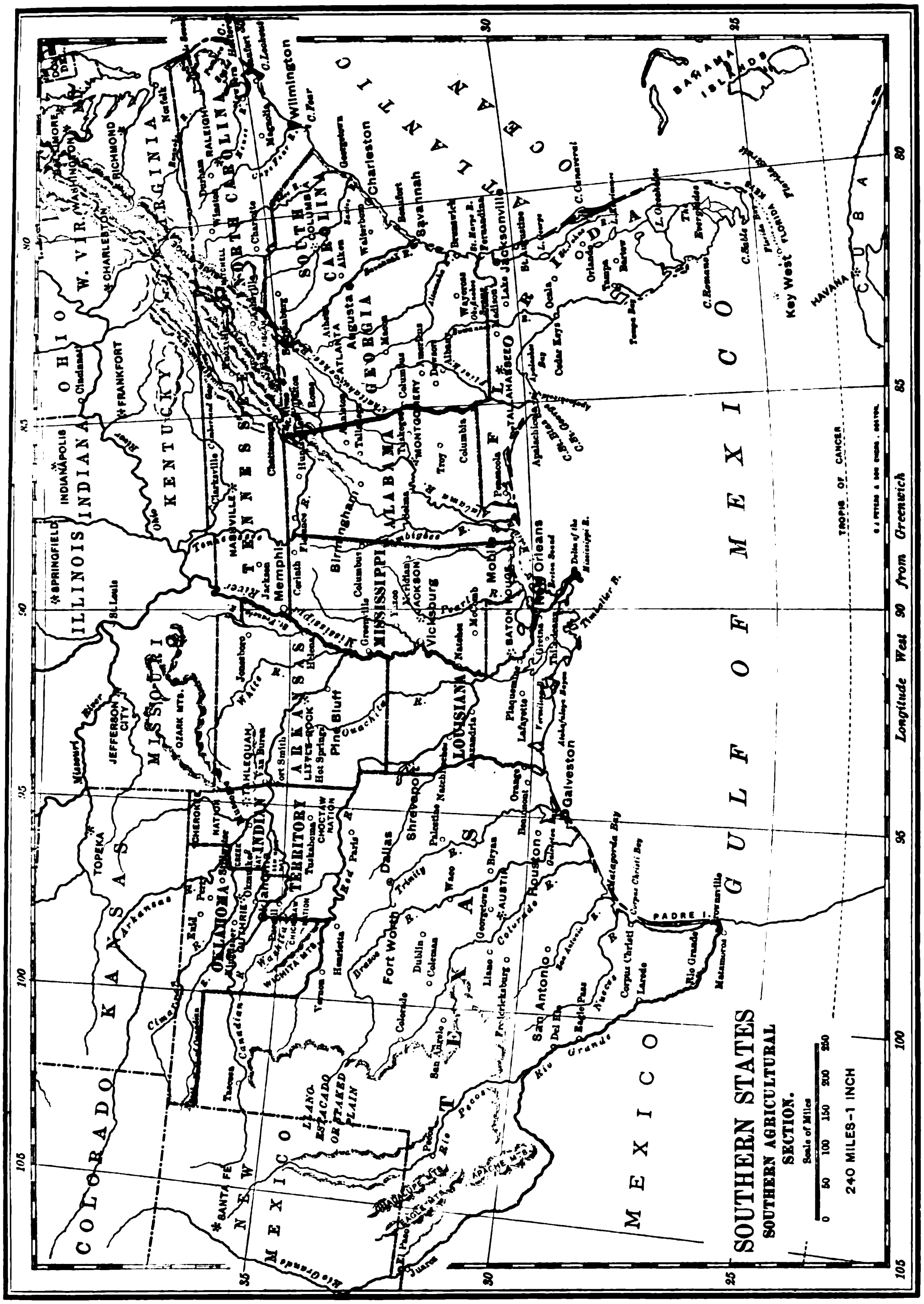
Nearly all of the towns and cities have good schools, and there are many small colleges and higher institutions of learning. The people are intelligent and progressive in every way.

SOUTHERN STATES.

The Southern Agricultural Section.

Trace the boundaries of this section. Trace its shape in the air. Sketch it on the board. Sketch it into the outline map of U. S. How many States and how many territories comprise it? Which is the largest State? Which the smallest? Which States lie east of the Mississippi? Which west of the Mississippi? What State groups, country, and waters bound this section? Which States border the Atlantic? Which border the Gulf? Which States have the most sea-coast? Which have very little sea-coast? Which have no sea-coast? There are no very good harbors on the Atlantic coast of this section, as the water is shoal, with many sandbars. Name any projections or indentations on the Atlantic coast; on the Gulf coast. Name any islands which lie near the coast.

From the relief map of United States, tell how the surface of this section is divided. Trace the rivers which belong to the Mississippi System. Trace those which flow down the Atlantic and Gulf slopes. Trace the water-parting between the Atlantic slope and the Mississippi Basin. Trace the rivers which flow into the Mississippi from the west. Why are they so much longer than the eastern tributaries? Trace the rivers on the Texas slope. On what plateau do they rise? Which three States of this section lie in the Mississippi Valley? Which part of Tennessee? Of Alabama? By what tributary river are the Territories drained? To what great river basin do they belong? Describe the surface of the border Atlantic States from the relief map. Of the Gulf States. Of Tennessee.



SOUTHERN STATES

SOUTHERN AGRICULTURAL SECTION.

What names are given the different highlands in this section? Judging from the position, what must be the prevailing weather for the greater part of the year? Judging from the highlands, what parts must have cooler weather? What winds must blow over the eastern part? What over the southern part? As they blow from the sea what must they carry?

What products have you already learned about as growing in this section? Which States manufacture as well as raise cotton? Name the leading cotton markets. (Page 130.) What localities are especially engaged in fruit-raising? For what purpose? What localities raise tobacco?

This is the great cotton-producing section of the world. Sugar-cane is another important product of this section. From it sugar is produced. *New Orleans* is the leading sugar-shipping port.

Sugar-cane is a plant belonging to the grass family, living from year to year and growing to a height of from ten to fifteen feet. When mature the canes are cut and then crushed between heavy rollers to get the juice out. The juice is boiled, a part forming into crystals, the rest making molasses. Both the sugar and the molasses are refined into the different grades which we find in the markets.

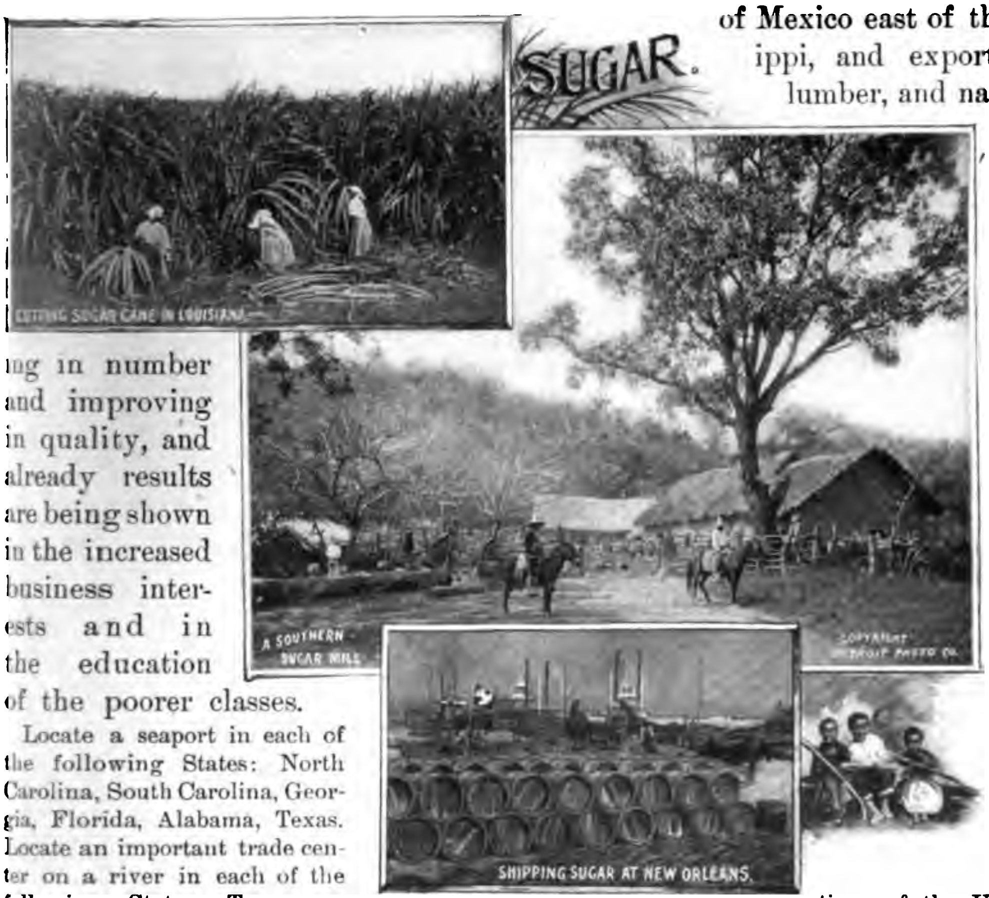
Rice is an important food grain of this section. Rice and sugar-cane grow well in the rich and very moist or swampy soil of the coastal plains. (Page 129.) Coffee is the chief import of this section.

In which States are oats produced? In which is corn produced? What are the only localities where wheat is grown? Locate grazing in the States which are engaged in it. What part of this section leads in this industry? What are the only localities where wool is produced? In which State and Territory are there no forests? Which sections are engaged in lumbering? What other industry is an outgrowth of this southern forest region? (Page 33.) What minerals are found in this section?

As you see, the great industries of this section are those connected with farming and commerce. Commerce is the direct result of agriculture. How? Manufacturing industries are on the increase.

How does the number of people in this section compare with the number in other sections of United States? Which of these States are most thickly settled? Which part of each of the different States is most thinly peopled?

Most of the Negroes of the United States live in this section. In some of these States there are more Negroes than Whites. Before the Civil War there were no public schools for all classes in any of these States, and in consequence only the wealthy were educated. After the war the people were left very poor, and public schools have been slowly established. But they are now increasing in number and improving in quality, and already results are being shown in the increased business interests and in the education of the poorer classes.



CUTTING SUGAR CANE IN LOUISIANA.
A SOUTHERN SUGAR MILL.
COPYRIGHT DETROIT PHOTO CO.
SHIPPING SUGAR AT NEW ORLEANS.

Locate a seaport in each of the following States: North Carolina, South Carolina, Georgia, Florida, Alabama, Texas. Locate an important trade center on a river in each of the following States: Tennessee, Mississippi, Arkansas, Texas. Find and name the capital of each State.

There are not as many railroads as in the other sections, but the important industrial centers are connected with other great commercial centers? Which State has the fewest railroads? Which has the greatest number?

New Orleans is the leading commercial port in this section, and ranks second to New York in the United States, in the value of its exports. From its position, tell of what these exports consist. *Key West* is the Southern naval station for the United States. It is noted for its sponge fisheries, and its trade in tobacco.

Mobile is the chief port on the Gulf of Mexico east of the Mississippi, and exports cotton, lumber, and naval stores. *Birmingham* and *Chattanooga* are noted for their recent development of large and important iron industries.

Many people who find the cold winters of the northern sections of the United States too severe for their health, visit sections of North Carolina, South Carolina, Georgia, and Florida during the winter months.

Indian Territory has been reserved by the United States Government as a home for several tribes of Indians. Many of these Indians live in villages, their houses being constructed of wood as ours are. They have schools and churches, and are quite advanced in civilization.

HIGHLAND AND PACIFIC STATES.

The Mining and Grazing Section.

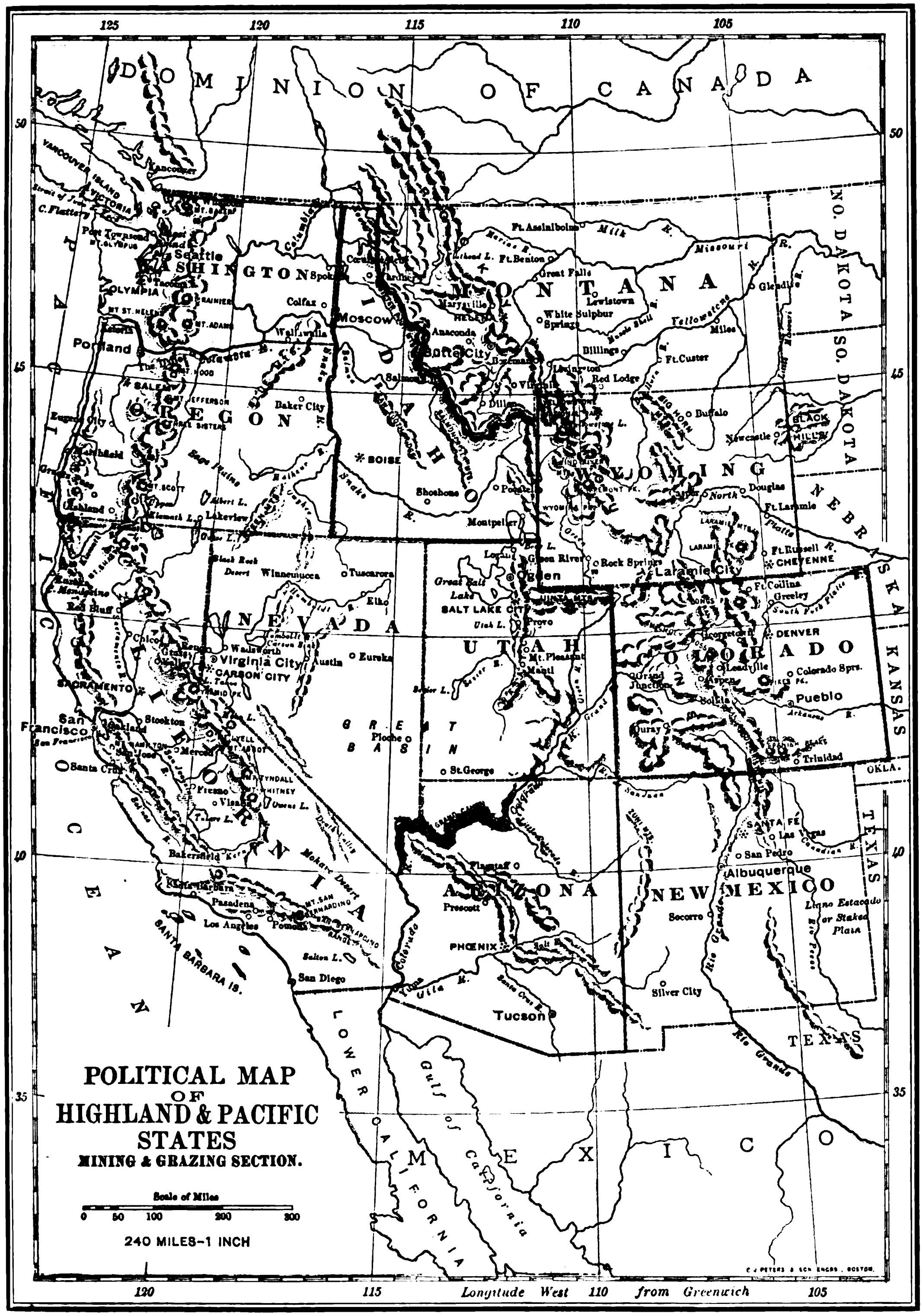
Trace around this section. Tell how many and what States comprise it. Trace its shape in the air. Sketch it on the blackboard. Sketch it into your map of the United States. What two countries, two State groups, and waters bound it? Which States are on the Canadian boundary? What State and two Territories are on the Mexican border? Which States border on the sea? Which have no sea-coast? Trace the coast-line and locate any projections and indentations you find. Also name and locate the islands near the coast. Can you think of any reason why there are but few harbors on this coast?

MERCED RIVER, YOSEMITE VALLEY, CALIFORNIA.

From the relief map of United States, trace and describe the surface of this region. Which mountain range has the greatest number of peaks? Find and name some of them. Trace the rivers which flow down the western and southwestern slopes. What two rivers unite to form the Colorado? Which mountain range prevents this river from flowing directly to the sea? Tell anything yo can about this river. (Page 122.) In what countr does the Columbia River rise? What boundar does it form in a part of its course?

The Columbia River is navigable fo large steamers to Portland. It is note for its salmon fisheries, which, wit those of the coast, are the finest i the world.

Trace the rivers of the California Valley. Wha mountains does the Sacramento River gap? Wha can you find out about this valley? (Page 123. In which States are the rivers that have n outlets. Trace the rivers which flow down th eastern and southeastern slopes. To what grea river system do most of them belong? What i the largest tributary of the Missouri in this sec tion? What is the largest tributary of the Colo-



POLITICAL MAP
OF
HIGHLAND & PACIFIC STATES
MINING & GRAZING SECTION.

rado? What is the largest lake in this section? In what State is it located? Which States have the greatest number of lakes? Most of the lakes in the Basin region are salt. Why? (Page 122.) Which States lie wholly in the mountainous regions? What part of other States are mountainous? Which States or Territories are wholly or partly in the Basin region?

Judging from their position, which States must have the coldest weather? Which the warmest weather? Judging from their height, which States must have very cold winters and cool summers? Judging from the nearness of some portions to the sea, which States must have a generally warm and even climate? Judging from its extent from north to south, which State must have the greatest variety of weather? Which States have very little rainfall? How is the soil made productive in many parts of this section? Which parts have plenteous rainfall?

On the product maps trace and locate the forest region of this section; also the lumber regions. In which parts of this section are fruits abundant? In which of these States is wheat raised?

Seattle and *Portland* are the great lumber markets for this region. The largest lumber mills in the world are in this locality. The famous groves of big trees are in California. (Page 35.) California leads in the production of fruits of great size and of many different varieties, including those of both the temperate and warm regions. Wine and raisins are valuable products of the central and southern parts of this State. They are sent to the eastern markets.

Wheat is the principal grain, although it is not grown in all parts. Flour and wheat are shipped to Europe and to other countries. How?

Corn is the second leading grain in this section. In which States is it raised? Where are oats grown? In which States is cattle-raising or grazing an important industry? Which States are engaged in sheep-raising?

Grazing, lumbering, farming, and fruit-raising are important industries. The farms where cattle-, horse-, or sheep-raising is the chief industry are called *ranches*. There are many valuable and growing manufacturing industries, especially in *San Francisco*, *Denver*, and *Pueblo;* but mining is the leading industry of the entire section.

In which States is iron produced? In which coal? Name the three most important minerals

of this section? Tell which of these are found in the different States. Which State and which Territory yield copper? Which States yield the greatest amount of mineral wealth? Which yield little mineral wealth?

California is the leading gold-producing State in the Union. Colorado ranks second in the production of gold. You observe that silver is found in nearly all localities where gold is found. *Leadville* is the center of the silver mining industry. Colorado is the leading State in the production of lead.

Which States are most thickly settled? Which are thinly settled? Name and locate the capital of each State. Point out and name one other important city in each State and Territory.

The entire section has been settled by the White people from the East. Many Indian tribes are scattered throughout these States. There are more Chinese in San Francisco than in any other part of the Union. Can you give any reason for this?

San Francisco, the largest city of this section, has an even temperature throughout the year. This is because the high mountains protect it from the cold northeast winds, while it is open to the moist, warm southwest winds from the sea. What more can you tell about San Francisco? (Page 118.)

Denver is the second largest city in this section. It is one mile above sea-level. It is noted for its healthful climate and delightful scenery. It is a great mining and railroad center. *Seattle* and *Portland* are next in importance among the cities of this section. Find *Los Angeles*. It is the principal fruit and wine market of southern California.

All of these cities are connected with Eastern cities by railroads. Trace some of these railroads. Steamers ply between the seaports and Alaska, Hawaii, the Philippines, China, etc. Trace these routes. (Page 104.)

Locate *Yellowstone Park*. It is a beautiful section of mountainous country set apart by the United States Government for a *National Park*. In it are preserved the few buffalo and other wild animals which lived and roamed at will before people settled here. Famous geysers and hot springs are located here. (Page 72.) Many people annually visit this park. They also visit the beautiful *Yosemite Valley* in California.

POSSESSIONS OF THE UNITED STATES.

ALASKA.

In what part of North America is Alaska? Trace its land boundary, and tell what country forms it. Trace its water boundary. Which part of the coast is most regular? Which is most irregular? Find one projection on the northern coast and three on the western coast. Find Cape Nome, and Alaska Peninsula. Across what strait and by which cape does Alaska approach nearest Asia? Find Bristol Bay, Cook Inlet, Gulf of Alaska. Near which coast and in what water are the following islands and groups: St. Lawrence, Kadiak, Pribilof, Aleutian. Trace and describe the Yukon River. From which direction does it receive the greater number of tributaries? Trace the water-parting between the Yukon Basin and the Arctic Ocean. Between the Yukon and the Pacific. What mountain ranges form these water-partings? Locate these mountain peaks: Wrangell, St. Elias, McKinley.

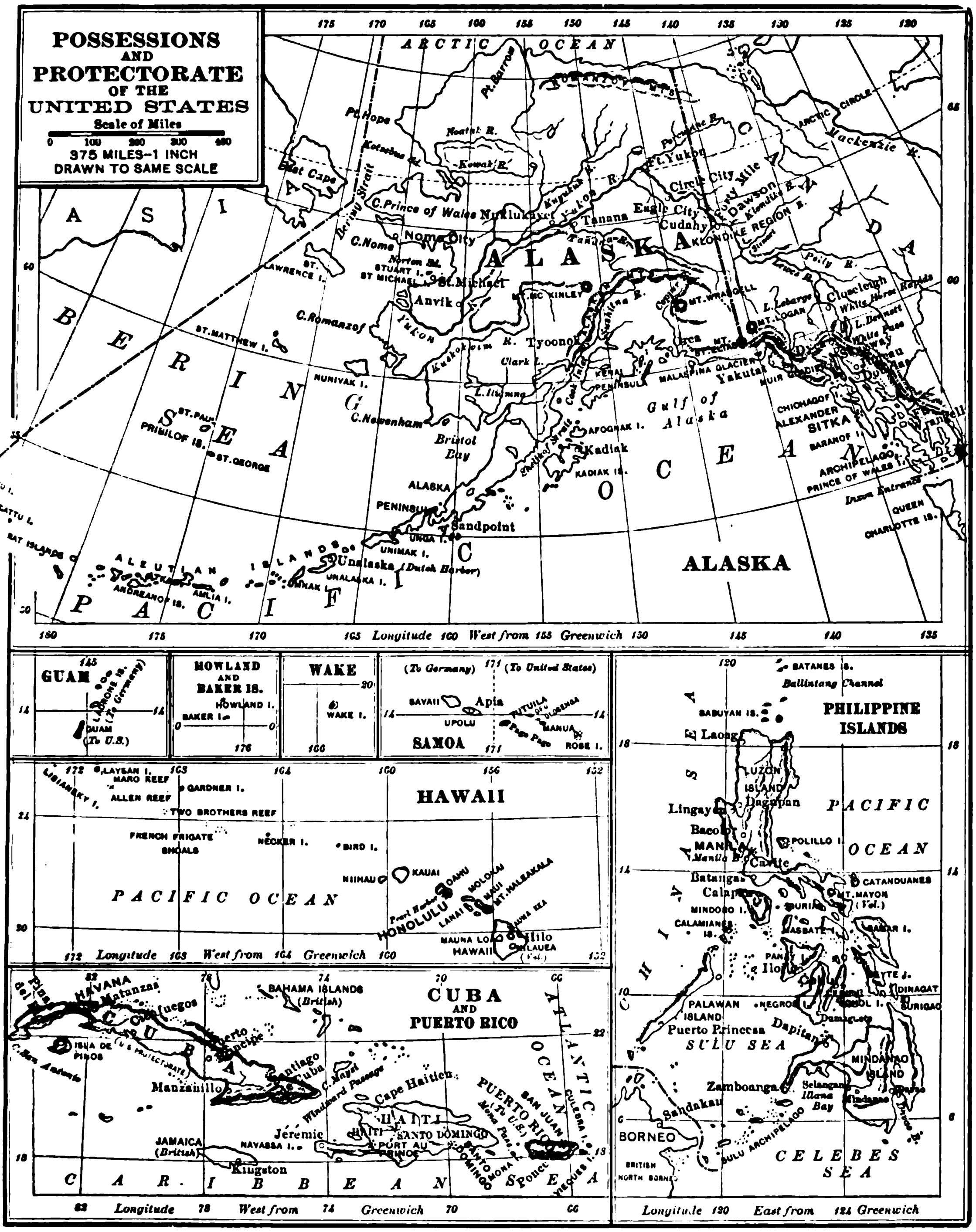
Alaska is a Territory of the United States. It was purchased from Russia in 1867 for $7,200,000. Although in a cold, bleak region, Alaska has more than paid for its purchase in the amount of money which has been paid into the United States Treasury from the royalty on the fur seals of the Pribilof Islands.

GOLD MINING AT CAPE NOME.

The surface of the northern part consists of the Arctic Coastal Plain and the tundra, with no trees, or plants except mosses and grass during the short summer. The southern and southeastern parts are mountainous. The mountains, and the Sitkan Islands are covered with forests. Most of the other islands are treeless. Magnificent glaciers descend to the sea on the southwestern slope. Name two. Alaska is too cold to be thickly settled. The warm winds from the sea make the southwestern part more inhabitable than other parts. Here vegetables and small fruits have time to mature in summer. Lumber, fish, furs, and minerals are the chief products of Alaska.

A FAMILY OF SEALS.

The greater number of the people are Indians, the rest are Eskimos and Whites. The Whites have established industrial schools and churches, and are teaching the Indians and Eskimos to take better care of themselves and their families. Alaska is rich in mineral deposits. The goldfields of the Yukon Valley and Cape Nome have



POSSESSIONS
AND
PROTECTORATE
OF THE
UNITED STATES
Scale of Miles
0 100 200 300 400
375 MILES-1 INCH
DRAWN TO SAME SCALE
ARCTIC OCEAN
ASIA
BERING SEA
ALASKA
CANADA
PACIFIC OCEAN
Gulf of Alaska
Bristol Bay
ALASKA PENINSULA
ALEUTIAN ISLANDS
Unalaska (Dutch Harbor)
Sandpoint
Kadiak
Nome City
St. Michael
Anvik
Circle City
Eagle City
Dawson
KLONDIKE REGION
Tanana
MT. MC KINLEY
MT. WRANGELL
MT. ST. ELIAS
Yakutat
SITKA
ALEXANDER ARCHIPELAGO
PRINCE OF WALES I.
QUEEN CHARLOTTE IS.
PRIBILOF IS.
ST. PAUL
ST. GEORGE
NUNIVAK I.
ST. MATTHEW I.
ST. LAWRENCE I.
Longitude West from Greenwich
GUAM (To U.S.)
LADRONE IS. (To Germany)
HOWLAND AND BAKER IS.
WAKE
SAMOA
(To Germany) (To United States)
SAVAII
Apia
UPOLU
TUTUILA
Pago Pago
MANUA
ROSE I.
HAWAII
LAYSAN I.
LISIANSKY I.
GARDNER I.
FRENCH FRIGATE SHOALS
NECKER I.
BIRD I.
NIIHAU
KAUAI
OAHU
HONOLULU
MOLOKAI
MAUI
LANAI
MAUNA KEA
MAUNA LOA
Hilo
KILAUEA (Vol.)
PACIFIC OCEAN
CUBA AND PUERTO RICO
HAVANA
Matanzas
Cienfuegos
Puerto Principe
Santiago de Cuba
Manzanillo
ISLA DE PINOS
BAHAMA ISLANDS (British)
HAITI
SANTO DOMINGO
PORT AU PRINCE
Cape Haitien
Jeremie
JAMAICA (British)
Kingston
NAVASSA I.
PUERTO RICO (To U.S.)
SAN JUAN
Ponce
CULEBRA I.
VIEQUES I.
MONA
ATLANTIC OCEAN
CARIBBEAN SEA
Windward Passage
PHILIPPINE ISLANDS
BATANES IS.
BABUYAN IS.
LUZON ISLAND
Laoag
Dagupan
Lingayen
MANILA
Manila B.
Cavite
Batangas
MINDORO I.
POLILLO I.
CATANDUANES
MT. MAYON (Vol.)
SAMAR I.
LEYTE I.
PANAY I.
Iloilo
NEGROS I.
BOHOL I.
PALAWAN ISLAND
Puerto Princesa
SULU SEA
MINDANAO ISLAND
Zamboanga
Dapitan
SULU ARCHIPELAGO
BORNEO
Sandakan
BRITISH NORTH BORNEO
CELEBES SEA
CHINA SEA
PACIFIC OCEAN
Longitude East from Greenwich

THLINGET VILLAGE, SITKA.
ESKIMO HOME
HARLEQUIN DUCK
SPECTACLED EIDER
KING EIDER
STELLERS EIDER
INDIAN TOTEM POLES & HOUSES
INDIAN RIVER NEAR SITKA.
A NATIVE & FISH. SITKA
INDUSTRIAL TRAINING SCHOOL SITKA
ESKIMO CHILD.
U.S.R.C. "BEAR" IN THE ICE PACK
INDIAN HUTS AND CANOES DOUGLAS ISLAND.

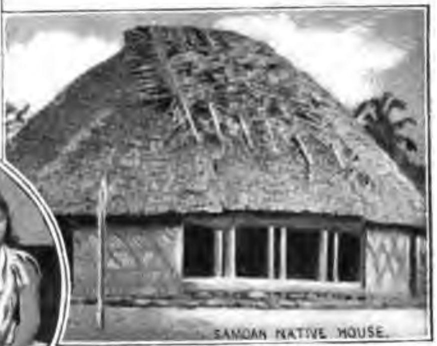
ALASKA.

attracted large numbers of Whites, and caused them to brave the rigorous climate and the necessary hardships. The famous Klondyke region is east of Alaska, in British territory.

Nome City is noted for its recent great yield of gold. *Sitka* is the capital.

Young Alaskan Indians have graduated from the industrial schools and built the houses which you see in the village of Thlinget, Sitka, on preceding page. Compare the Indian huts with the Eskimo homes. Find out how Alaska is governed. From the map, page 104, trace the steamer route from the United States to Alaska. Find out all you can about the people of Alaska —how they live, what they wear, what they eat, etc.

SAMOAN INTERIOR.



THE HAWAIIAN ISLANDS.

Locate this group of islands. Tell its direction from United States; from the Philippines, from Samoa, from China. How would you go there? How many large islands are there? Which is the largest? What three volcanoes on this island? What large town? On which island is Honolulu, the capital, situated?

The *Hawaiian Islands* were annexed to the United States in 1898. They are mountainous and of volcanic origin, and much of the soil consists of lava-floes. Forests clothe the mountains to the summits.

These islands have a fine climate. All of the products of the temperate and semi-tropical regions grow here in abundance. The principal products are sugar, rice, and coffee, all of which are exported.

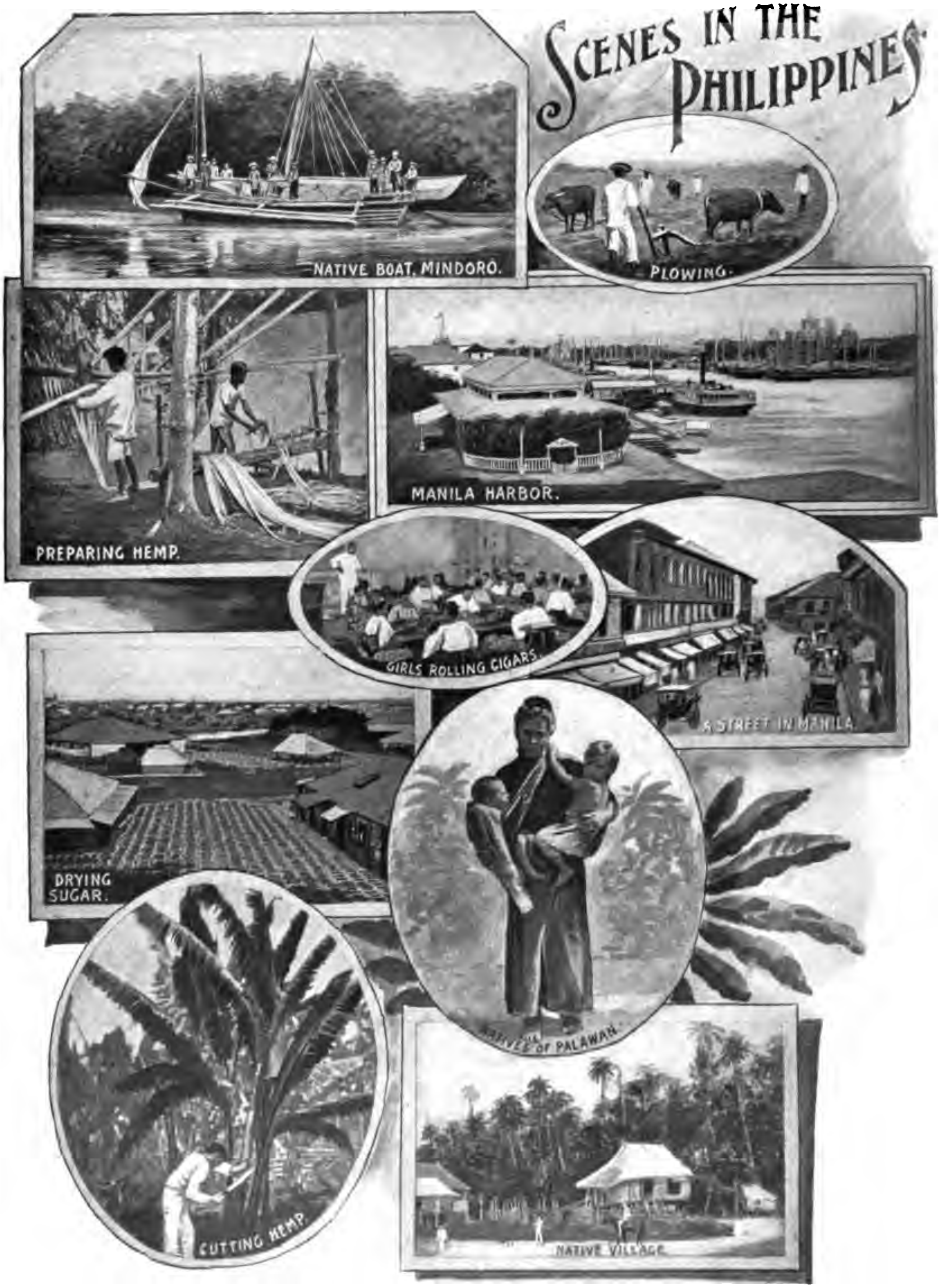
The people consist largely of Whites, Chinese, Japanese, and the natives, who belong to the Malay branch of the Yellow Race. The natives are Christians, and have a good system of schools. Most of them can read and write.

Honolulu is a thoroughly American city. It has fine public buildings and residences. It has a fine harbor and regular steamship communication with our Pacific harbors. *Pearl Harbor* and *Hilo* are the only other harbors in the islands.

TUTUILA (SAMOA).

This island belongs to the Samoan group. Find it. Tell how you would go there. Describe the Samoan house, without and within.

***Tutuila* is about eighteen miles long and five miles wide. The climate is delightful, but warm. The products of the island supply the people with**



SCENES IN THE PHILIPPINES

NATIVE BOAT, MINDORO.

PLOWING.

PREPARING HEMP.

MANILA HARBOR.

GIRLS ROLLING CIGARS.

A STREET IN MANILA.

DRYING SUGAR.

NATIVES OF PALAWAN.

CUTTING HEMP.

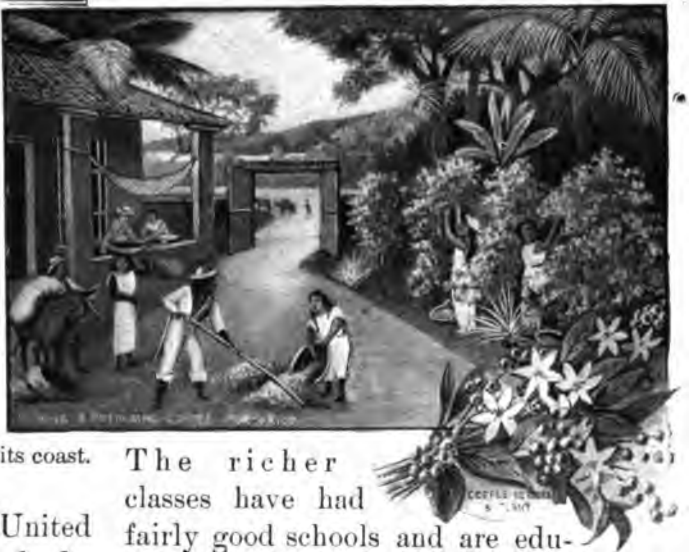
NATIVE VILLAGE.

material for their houses, furniture, dress, and food. They live almost in idleness. Copra, from which cocoanut oil is made, is the only product of any importance. *Pago-Pago* has an excellent land-locked harbor. It is of value to the United States as a coaling-station.

THE PHILIPPINE ISLANDS.

Locate the Philippine Islands. Tell how you would go there. Near what grand division and in what direction from it are they? What waters surround these islands? Locate *Luzon*, the most northern island of the group. What important bay on its western coast? For what famous naval battle is it noted? On which coast do you find more seaports? *Manila*, the capital of this group of islands, is noted for the manufacture of cigars. Locate it. Locate *Mindanao*, the second island in size and importance. Name two bays on its coast. Locate *Iloilo, Cebu, Dapitan.*

The *Philippines* were ceded to United States by Spain at the close of the Spanish-American War. They are of volcanic origin, and comprise about thirty-three islands. Much of the surface is mountainous, and there are several active volcanoes. The mountains are clothed with forests which yield valuable woods. The climate is very moist. There are three seasons—the cool season, which is during our winter; the hot season, from March till June; and the wet season, during our summer, when the rain falls in torrents and many parts of the country are flooded. The soil is very fertile, and a great variety of products is the result. Fruits are abundant. Sugar, tobacco, and a strong fiber known as manilla hemp, are the chief products. Farming and fishing are the principal occupations. There are about 8,000,000 people on these islands. They comprise Malays, Chinese, and Whites, with a large number that are a mixture of these races.



The richer classes have had fairly good schools and are educated, but there have never been any public schools where all the people could be educated. The United States is providing a system of public schools throughout the islands.

GUAM.

This island lies about halfway between Hawaii and the Philippines. To what group does it belong? It has a coast-line of about one hundred miles. Its climate is very moist. The island is

thickly wooded, and has a fertile soil. Coffee, sugar, chocolate, and copra are the chief products. The people are Malays. Most of them can read and write. Little trade has been developed. *Agana* is the principal town. There is no regular steamship communication with any country, but it is a coaling station for the United States Navy. Trace the route from the United States.

PORTO RICO.

Porto Rico was ceded to United States by Spain at the close of the Spanish-American War, July, 1898.

Locate this island. What separates it from Haiti? Locate *San Juan*, the capital, and *Ponce*, the largest city.

Porto Rico is nearly as large as the State of Connecticut. The surface is high and mountainous. The climate is delightful, but very moist. The island lies in the track of the hurricanes which visit this section. The soil is very productive. Farming is the chief occupation. Coffee is the principal product. Sugar and tobacco are important products. The people are mostly of Spanish and of Negro descent.

SCENES IN THE WEST INDIES.

CUBA.

Cuba, the largest of the West Indies, is a republic under the protection of the United States Government.

Locate this island. By what water is it surrounded? By what is it separated from Florida? From Yucatan? From Haiti? In what direction from the United States is it? How would you go there?

A low range of mountains traverses the entire length of this island, causing the land to slope northward and southward. There are many small rivers and fine harbors. The soil is rich; the climate warm, but delightful, especially in the mountains. Tropical vegetation is everywhere luxuriant. The thick forests yield fine cabinet woods. Farming, or agriculture, and herding are the principal occupations. Tobacco and sugar are the chief products.

Havana is the great shipping port. It has on of the best harbors in the world. *Matanzas* is th second city on the island.

There are valuable copper mines in the eastern part of the island.

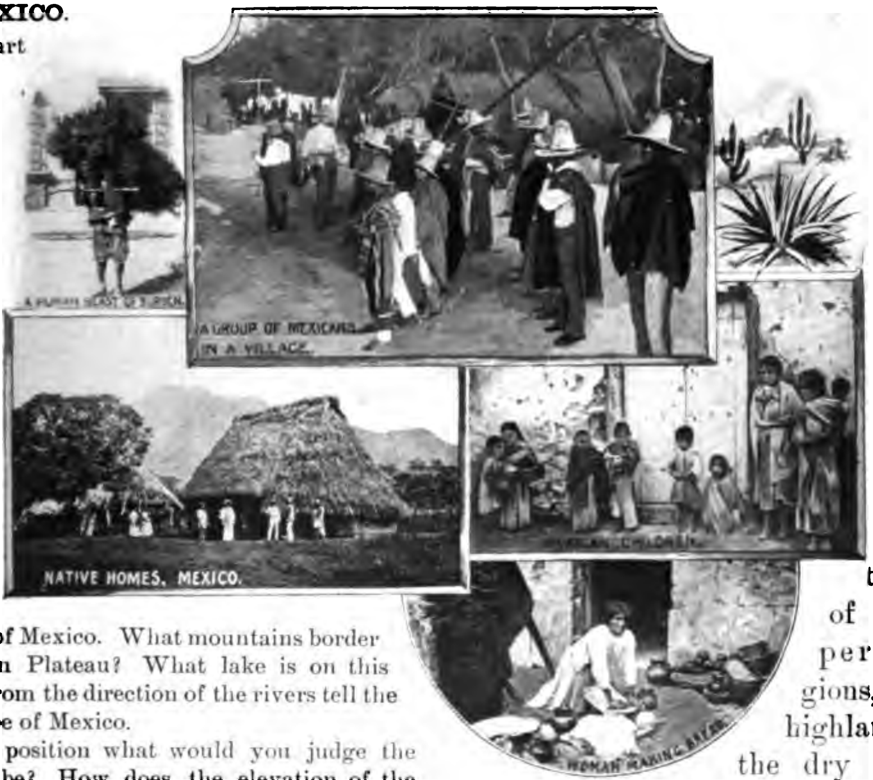
Santiago-de-Cuba has a fine harbor, and is the shipping port for copper. Find out what happened in this city during the Spanish-American War.

The people are largely of Spanish and of Negro descent, with a mixture of these races. Only the wealthier classes have been educated. Already, under the United States, better schools have been established for all children. The western part is most thickly peopled.

MEXICO, CENTRAL AMERICA, AND THE WEST INDIES.

(See maps of North America and United States.)

MEXICO.


A HUMAN BEAST OF BURDEN.
A GROUP OF MEXICANS IN A VILLAGE.
NATIVE HOMES, MEXICO.
MEXICAN CHILDREN.
WOMAN MAKING BREAD.

In what part of North America does *Mexico* lie? Bound it. Trace its water boundary and name any projections or indentations you find. From the relief map of North America describe the surface of Mexico. What mountains border the Mexican Plateau? What lake is on this plateau? From the direction of the rivers tell the general slope of Mexico.

From its position what would you judge the climate to be? How does the elevation of the greater part of its surface affect the climate? In what part would you expect to find great dampness and unhealthfulness? From the map, page 118, tell the principal products of this country. Locate the grain region; the fruit region; the cotton, rice, and sugar regions. Locate the mining section and tell what minerals are mined.

Mexico is a republic comprising twenty-seven States and three Territories.

The difference in elevation causes a variety of climate, with products varying from the tropical in the lowlands, to those of the temperate regions, in the highlands. In the dry northern part the cactus grows abundantly. Some species of this plant are cultivated for their sap, which is made into a drink called *pulque*. (Page 164.) This is the principal drink of the natives. Mexico has great mineral wealth, the silver mines being of the most importance.

The people are Indians, Whites of Spanish descent, and a mixture of Spanish and Indian called Mestizos. There are no schools for the masses. As a rule, the people are not energetic or progressive. Can you think of any reason for this?

Name and locate the capital. Locate *Vera Cruz*, the principal seaport. Name two seaports on the western coast.

Mexico, the capital, is the principal city. It is beautifully located on the plateau and contains some fine buildings. It is the great railroad center of Mexico, being connected by railroad with Vera Cruz, Acapulco, and with the principal cities of the United States.

CENTRAL AMERICA.

Locate *Central America*. Can you tell why it is so named? Trace its boundaries and tell what waters and what land surround it. From the relief map describe its surface.

Central America has five divisions; name them. Name and locate the capital of each.

From the product map name the important productions. Honduras is especially noted for its mahogany.

The people are like those of Mexico. Two-thirds of the entire number live in Guatemala and San Salvador, these being the most progressive divisions.

BALIZE.—Find *Balize*. It is a small dependency of Great Britain.

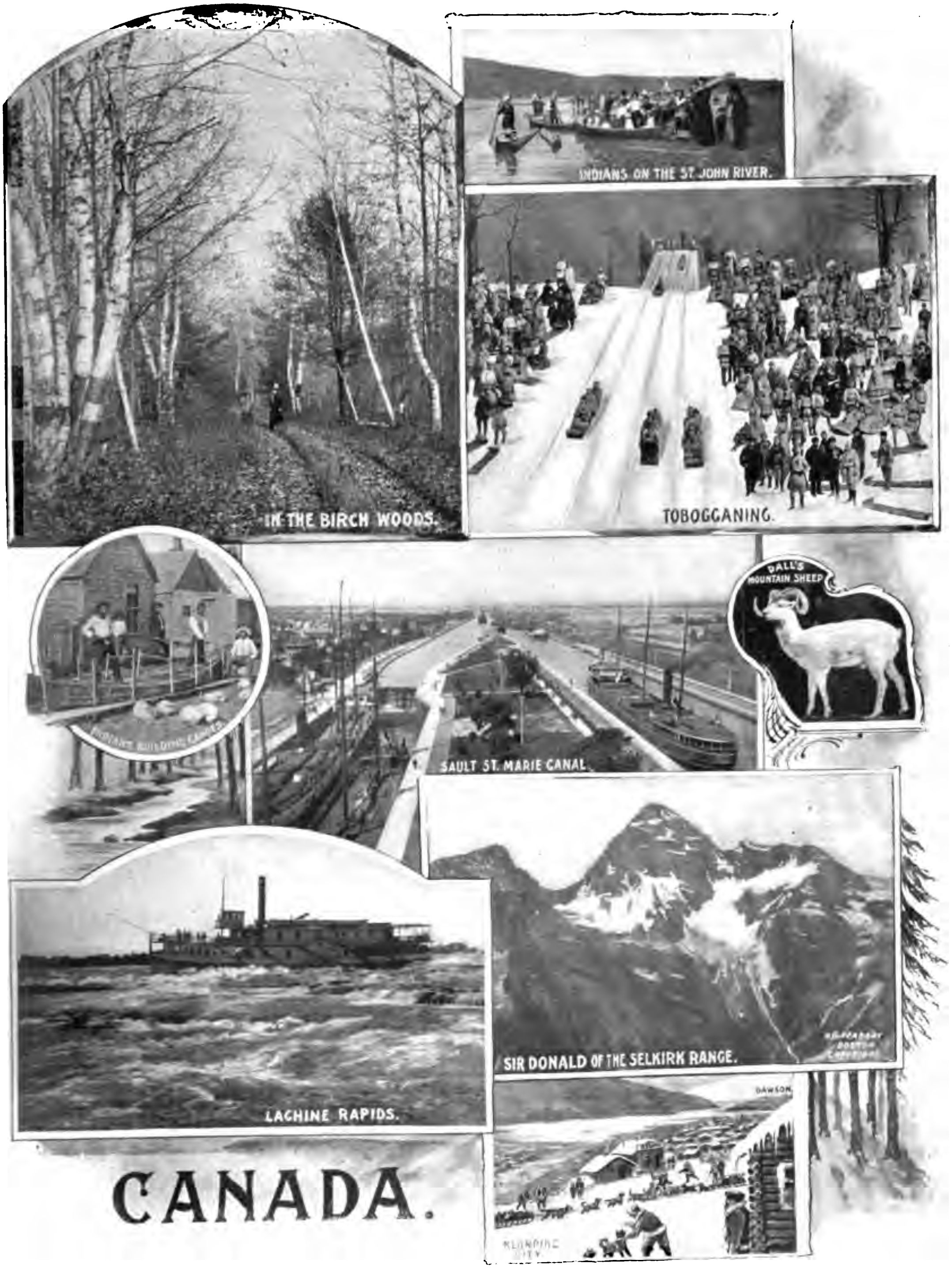
THE WEST INDIES.

Locate the *West Indies*. How are they separated from the United States? How from Yucatan? What sea do they inclose? Name the four largest islands of the group. Which of these belongs to the United States. Which is a protectorate of the United States? To whom does Jamaica belong? What two names are given to the island which lies between Cuba and Porto Rico? By what strait is this island separated from Cuba? By what from Porto Rico? What is the capital of this island?

What name is given the group of islands southeast of Florida? To whom do they belong? (Page 125.)

New Providence is the most important of these islands. *Nassau*, the capital of the group, is on this island. *Haiti* and *Santo Domingo* are two republics with native rulers. The people are mostly Negroes, and everything is in a backward state.

The climate and products of all of the West Indies are similar. The people of these islands comprise Whites, Negroes, and Mulattoes. *Havana* is the leading seaport of the West Indies.


IN THE BIRCH WOODS.
INDIANS ON THE ST. JOHN RIVER.
TOBOGGANING.
INDIANS BUILDING CANOES.
SAULT ST. MARIE CANAL.
DALL'S MOUNTAIN SHEEP.
LACHINE RAPIDS.
SIR DONALD OF THE SELKIRK RANGE.
H.G. PEABODY BOSTON COPYRIGHT
DAWSON.
KLONDIKE CITY

CANADA.

CANADA AND NEWFOUNDLAND.

In what part of North America is Canada? Bound it. Trace the water boundaries. Name the projections and indentations on the northern, eastern, and western coasts. Which do you think the most important? Why? From the relief map of North America describe the general surface of Canada. What two river basins lie wholly in this country? What large one lies partly within this country? What river of western United States and what one of Alaska rise in Canada? What lakes are drained by the Mackenzie? What ones by the Nelson? Trace the divide between the St. Lawrence and Hudson Bay basins; between the Mackenzie and Hudson Bay basins.

GATHERING THE SAP OF THE AGAVE FOR PULQUE

In what belts of climate is Canada? Compare the northern part with the southern part as to length of winters and of summers. What great production sections lie in Canada? (Page 118.) Which part is engaged in fur-trading? Where would you find lumbering a principal occupation? Farming? Mining? In which part would you expect to find few people? Why? In which part are the cities located? What is the capital? Locate Montreal, Quebec, Toronto, Victoria, Halifax. Which is a lake port? Which are river ports? Which are seaports? Why are *Victoria* and *Toronto* of importance?

Canada comprises seven provinces similar to our States and several divisions similar to our Territories which are all united under one government—the *Dominion of Canada.* The highest official is the Governor General, who is appointed by the ruler of Great Britain. *Newfoundland* and *Labrador* form a separate province under Great Britain. The Dominion of Canada and Newfoundland are called *British America.* Why?

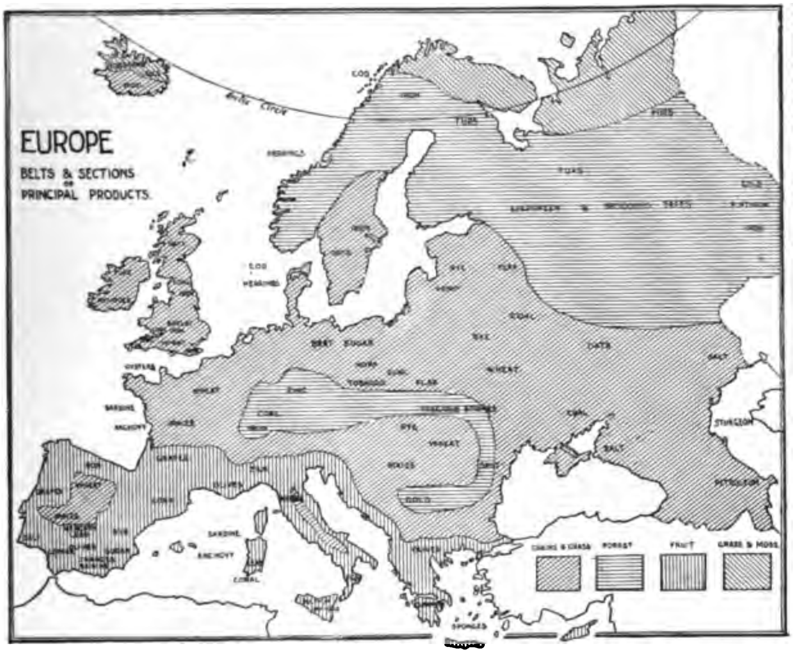
Canada was settled by the French. It contains many French and English people, together with Indians and Half-breeds,—a mixture of French and Indian,—and Eskimos. The Eskimos live in the northern part. The Indians and the half-breeds are engaged in trapping and hunting. Farming is the principal occupation. *Ottawa,* the capital, is in the heart of a large lumber region. *Montreal* is the largest city. It is one of the leading lumber and grain markets in North America. It is an important railroad center, and has steamship communication with Europe. *Quebec,* a walled city, is one of the oldest cities in North America. *Halifax* has one of the finest harbors in America.

Locate NEWFOUNDLAND. Tell what waters separate it from the mainland? What cape projects from it? What small island lies south of it? What city do you find on this island?

The people of Newfoundland are engaged in fishing and farming. The famous "fishing-banks" lie south of Newfoundland. The French own St. Pierre Island, whence they secure enormous quantities of fish for trade.

with all other cities of Great Britain and by steamship lines with the cities of the entire world.

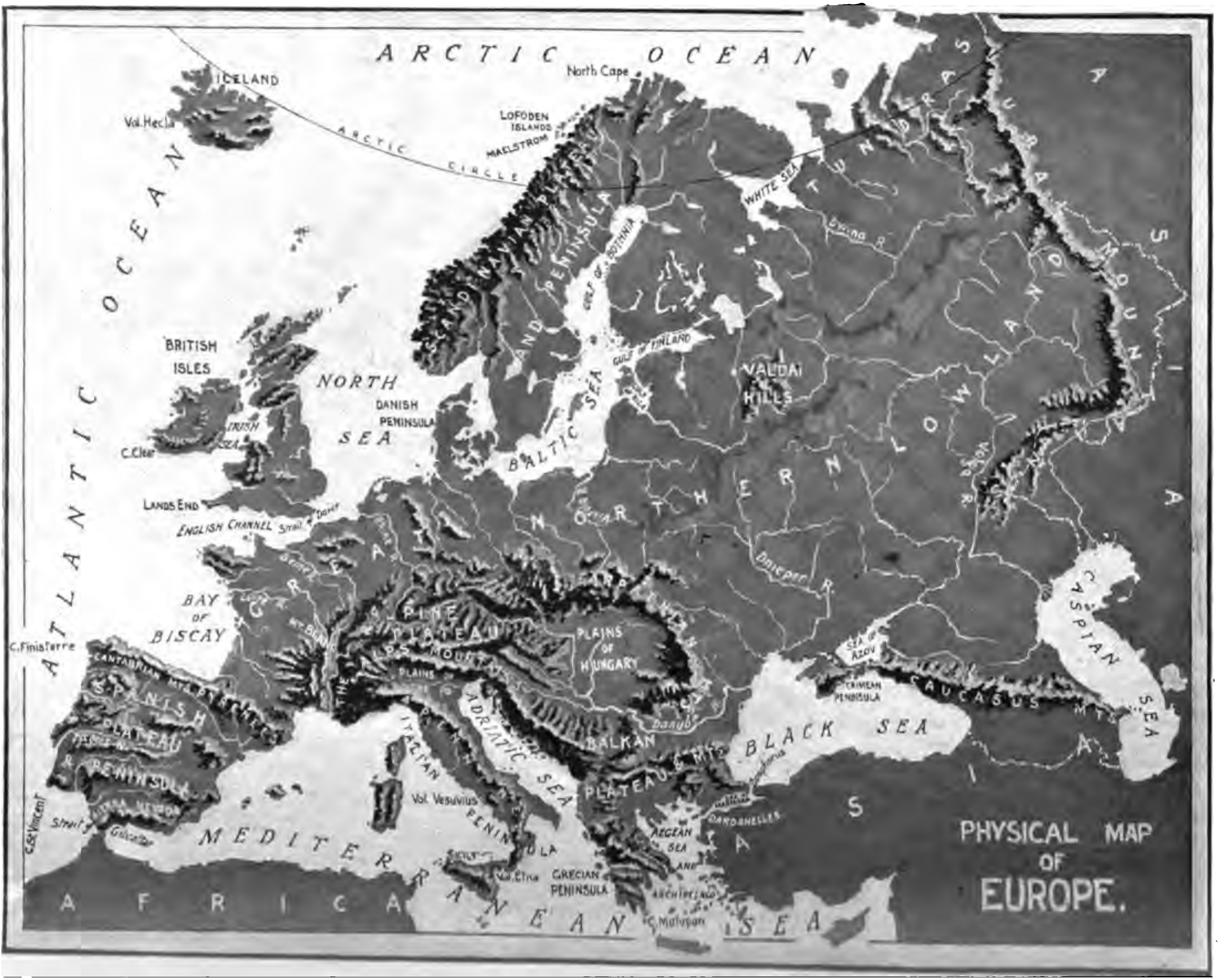
Paris, "The Magnificent," is the second largest city in Europe. Its streets are beautifully laid out, and it has many magnificent buildings. There are many picture and art galleries — the latter containing treasures of great value. Paris is one of the great musical, art, and literary centers in the world. Many people go there to study music, painting, sculpture, science, and medicine. It is the social and fashion center of the world. It is noted for its great variety of small industries—the making of ribbons, artificial flowers, etc.



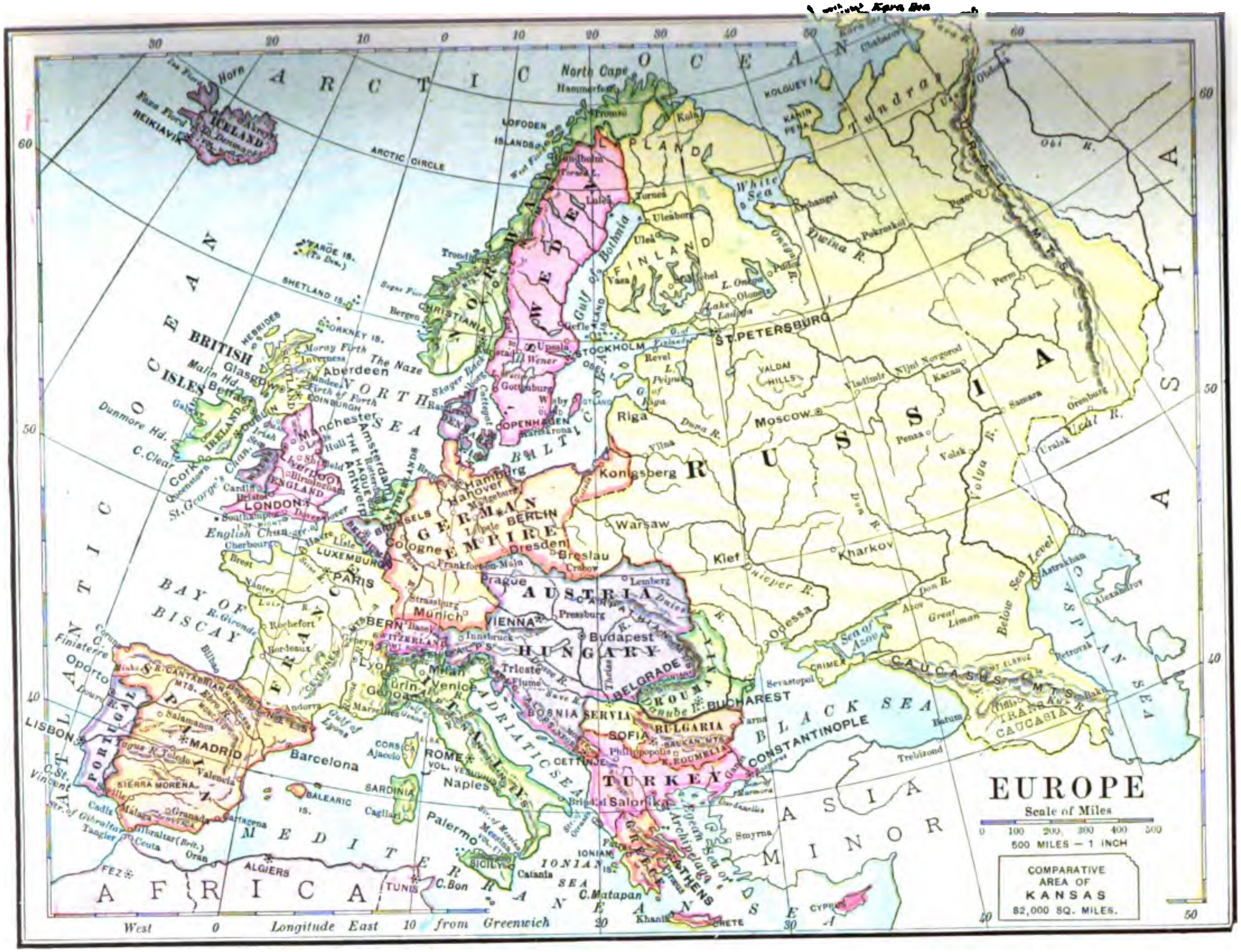
Berlin is the third city in size in Europe. It is an intellectual center of great importance. It is noted for its numerous institutions of learning, attended by students from many parts of the world; its museums, theaters, libraries, and publishing houses. It is a great manufacturing, commercial, and railroad center, being connected by railroads with the seaports and all other important cities of Europe. *Hamburg* is the most important seaport on the mainland of Europe. It has regular steamship communication with New York and other important seaports of the world. It is the trade center for the exports and imports of the middle section of Europe. Locate it.

Vienna is the principal inland center of trade between the eastern and western parts of Europe. It has water connection by means of the Danube and canals, and by means of many important railroads with all the leading seaports and trade centers of Europe.

In *religion* more than half the Europeans are Roman Catholic. The Pope, who is the spiritual ruler of all the Roman Catholics in the world, resides at Rome. His residence is called the Vatican. St. Peter's Cathedral in Rome is the finest church in the world.

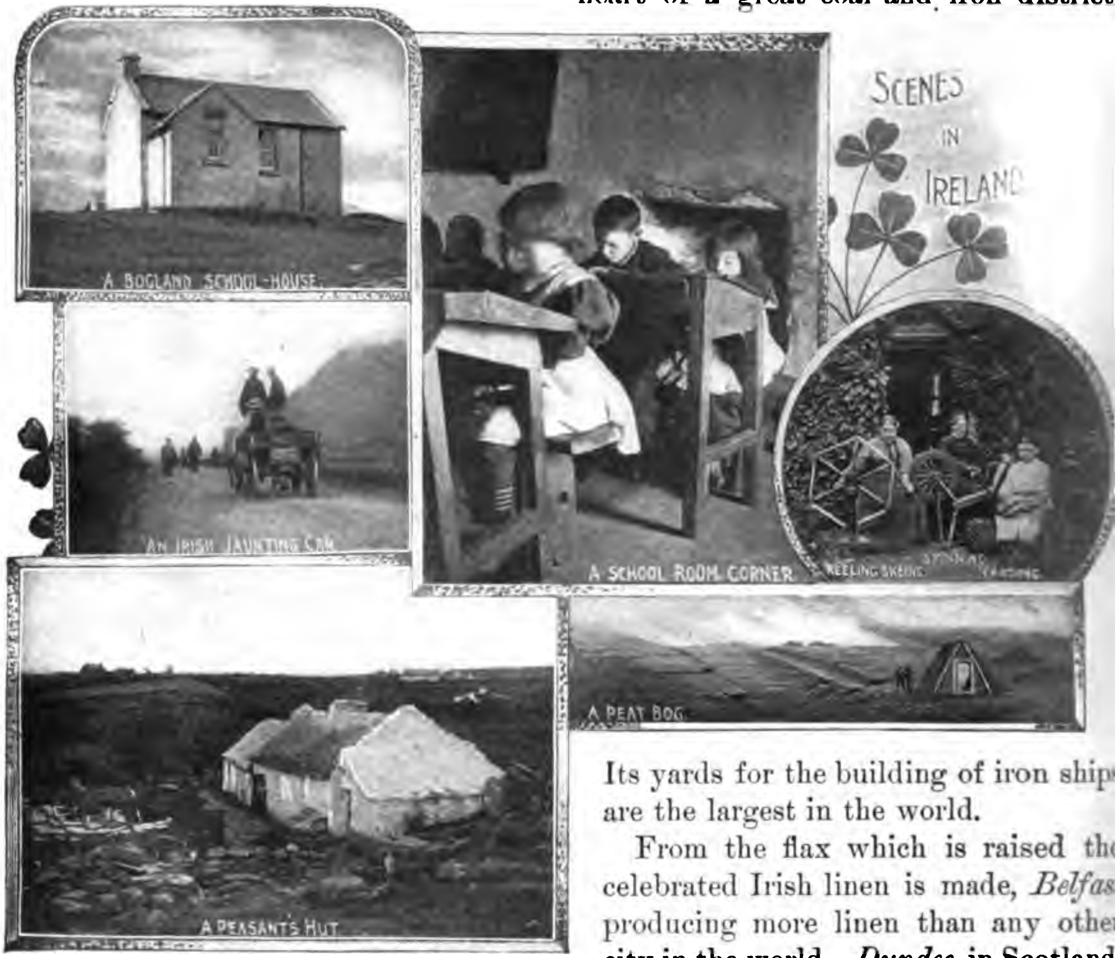


PHYSICAL MAP OF EUROPE.


EUROPE
Scale of Miles
0 100 200 300 400 500
500 MILES — 1 INCH
COMPARATIVE AREA OF KANSAS 82,000 SQ. MILES.
Longitude East from Greenwich
West
ARCTIC OCEAN
ARCTIC CIRCLE
ATLANTIC OCEAN
NORTH SEA
BALTIC SEA
Gulf of Bothnia
MEDITERRANEAN SEA
ADRIATIC SEA
IONIAN SEA
BLACK SEA
CASPIAN SEA
Sea of Azov
Aegean Sea or Archipelago
BAY OF BISCAY
English Channel
St. George's Chan.
White Sea
ICELAND
REIKIAVIK
FAROE IS.
SHETLAND IS.
ORKNEY IS.
HEBRIDES
BRITISH ISLES
IRELAND
ENGLAND
LONDON
Manchester
Liverpool
Glasgow
Aberdeen
Belfast
DUBLIN
Cork
NORWAY
CHRISTIANIA
Bergen
Trondhjem
Hammerfest
North Cape
LOFODEN ISLANDS
SWEDEN
STOCKHOLM
Gottenburg
DENMARK
COPENHAGEN
LAPLAND
FINLAND
RUSSIA
ST. PETERSBURG
MOSCOW
Riga
Warsaw
Kiev
Kharkov
Odessa
Sevastopol
Archangel
Kazan
Samara
Orenburg
Astrakhan
VALDAI HILLS
Tundra
URAL MTS.
Obi R.
Ural R.
Volga R.
Don R.
Dnieper R.
Dwina R.
L. Onega
Lake Ladoga
KOLGUEV I.
KANIN PENA.
CRIMEA
CAUCASUS MTS.
TRANSCAUCASIA
Batum
Trebizond
GERMAN EMPIRE
BERLIN
Hamburg
Hanover
Dresden
Breslau
Cologne
Frankfort-on-Main
Munich
Konigsberg
NETHERLANDS
Amsterdam
THE HAGUE
Antwerp
BRUSSELS
BELGIUM
LUXEMBURG
FRANCE
PARIS
Lyon
Marseilles
Bordeaux
Nantes
Brest
Cherbourg
Havre
Lille
SWITZERLAND
BERN
AUSTRIA
HUNGARY
VIENNA
Budapest
Prague
Trieste
Fiume
Lemberg
BOSNIA
SERVIA
BELGRADE
ROUMANIA
BUCHAREST
BULGARIA
SOFIA
TURKEY
CONSTANTINOPLE
Salonika
GREECE
ATHENS
C. Matapan
CRETE
CYPRUS
ITALY
ROME
Naples
Venice
Milan
Turin
Genoa
Palermo
SICILY
SARDINIA
CORSICA
Ajaccio
SPAIN
MADRID
Barcelona
Valencia
Malaga
Cadiz
Gibraltar (Brit.)
Bilbao
SIERRA MORENA
PORTUGAL
LISBON
Oporto
C. St. Vincent
C. Finisterre
BALEARIC IS.
AFRICA
ALGIERS
TUNIS
C. Bon
FEZ
Tangier
Ceuta
Oran
ASIA MINOR
Smyrna
Kara Sea

stuff as possible may be produced to supply the great mining and manufacturing districts. Many food products are imported, however.

A rich farming, manufacturing, and mining district lies in the southern part of Scotland. About two-thirds of the Scotch people live in this small district.



Nearly three-fourths of Ireland is adapted to farming—the principal crops being flax, potatoes, and grain. Much of the remaining fourth of the land consists of peat-bogs, the peat being used fo fuel. Ireland exports its farm-product to England.

Glasgow, the center of the cotto manufactures of Scotland, lies in th heart of a great coal and iron district Its yards for the building of iron ship are the largest in the world.

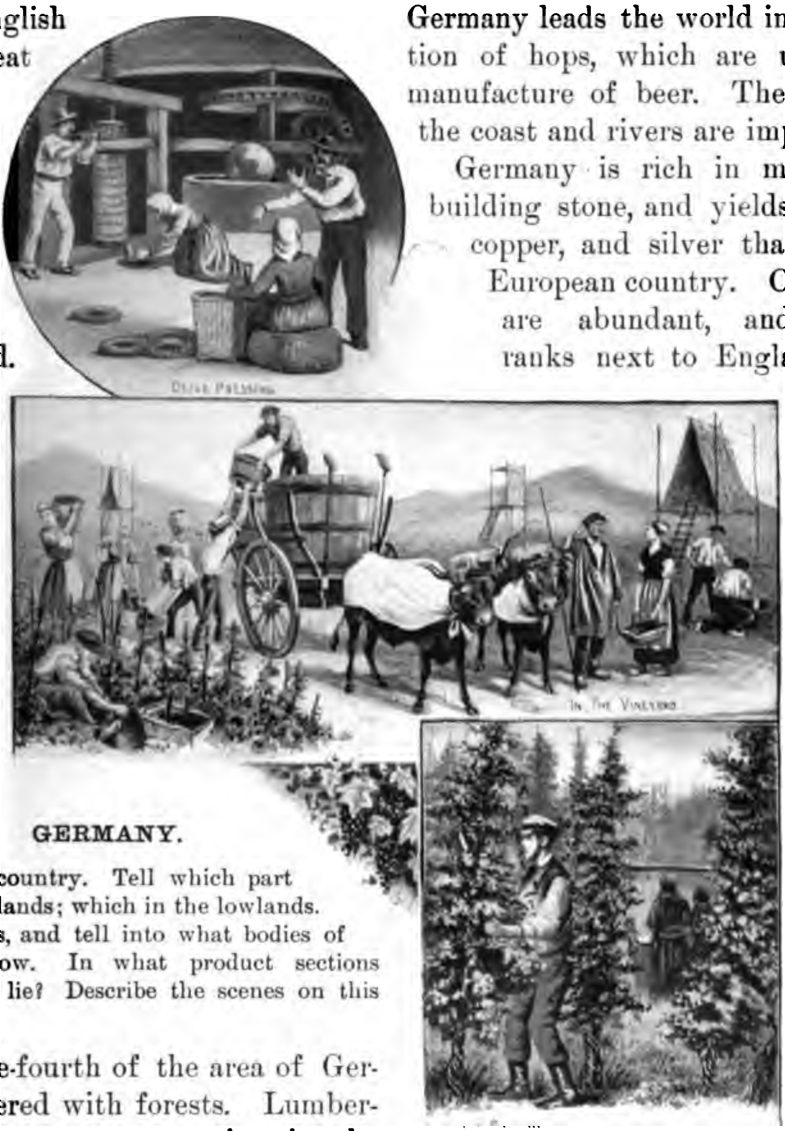
From the flax which is raised th celebrated Irish linen is made, *Belfas* producing more linen than any othe city in the world. *Dundee*, in Scotland ranks second in the manufacture o linen. (Page 144.)

Name and locate the capital of England, of Scot land, and of Ireland. Also locate *Glasgow*, th second largest city in Great Britain; *Southamp ton*, an important English seaport; *Cork*, an im portant seaport on the coast of Ireland.

Edinburgh is noted for its institution

of learning and for its great printing and publishing industries.

There are several ship-building yards on the English coast. Great Britain has a fine merchant fleet for carrying merchandise to all parts of the world.



Describe the scenes in the pictures on the three preceding pages. Compare the scenes with each other, and with similar scenes in our own country. Find out what you can about each scene.

GERMANY.

Bound this country. Tell which part **lies in the highlands**; which in the lowlands. **Trace the rivers**, and tell into what bodies of **water they flow.** In what product sections **does Germany lie?** Describe the scenes on this **page.**

About one-fourth of the area of Germany is covered with forests. Lumbering is an important occupation in the southern part. Farming, however, is the leading occupation. Rye is the principal grain. From its flour the rye or black bread of the peasantry is made. Potatoes are extensively cultivated. Grapes from which wine is manufactured are cultivated in the southwestern part. Tobacco, flax, and beets for beet-sugar, are extensively grown in some localities. Germany leads the world in the cultivation of hops, which are used in the manufacture of beer. The fisheries of the coast and rivers are important.

Germany is rich in minerals and building stone, and yields more zinc, copper, and silver than any other European country. Coal and iron are abundant, and Germany ranks next to England in iron manufactures.

In manufacturing and commerce Germany ranks among the leading countries of the world. It ranks first in the production of chemicals and beet-sugar. *Magdeburg* is the chief center of the beet-sugar industry. The most important manufactures are cotton, woolen, silk, and linen goods. Musical instruments, toys, dolls, clocks, and jewelry are extensively manufactured and sent to other countries.

have been slowly sinking for many years, so that the land is below the level of the sea. Strong dykes have been constructed along these coasts to keep the sea from overflowing the land.

In what belts of climate does Europe lie? How must the great extent of coast affect the climate? What kind of winds prevail on the western coast? What effect must they have on the climate? Which part of Europe must be affected by the warm south winds? Which parts must be affected by the cold north and east winds? How do the mountains affect highland Europe?

BARLEY FIELDS, NORTHERN RUSSIA.

NATIVES OF FINLAND.

The Alps, Pyrenees, and Balkan Mountains form the Primary Highland of Europe. They extend westward from the great highland mass of Asia, of which they are a part. The highest part of this highland is the Alpine Plateau, from which the land slopes in all directions.

The Alps are about the same average height as the Rockies and Sierras of North America. They present magnificent scenery, and are annually visited by thousands of tourists.

There are several glaciers on the Alps, from which many mountain torrents emerge. These torrents, loaded with mountain waste, form the rivers which have their sources on the plateau. This waste is carried to the sea, where it builds deltas, as does the Po; or it is dropped to the bottom of the lakes which lie in the courses of the rivers. The Rhine is thus filling Lake Constance, and the Rhone is filling Lake Geneva. Quantities of ice are furnished by the glaciers to the cities of the lower land.

One of the spurs of the Alps—the Apennines—forms the Italian Peninsula; another spur—the Dinaric Alps—helps to form the Balkan Plateau and the Grecian Peninsula. Trace these ranges.

Lowland Europe is a continuation of the Siberian Plain of Asia. It is broken only by the low Ural Mountains, and the Valdai Hills, which rise about two thousand feet above sea-level. The greater part of this great lowland is covered with forests, which in the southern part are interspersed with vast grass and grain regions. The grass-covered plains of the southeastern part are a continuation of the *steppes* of Asia. The northern part of the lowland consists of frozen swamps, or *tundras*—a continuation of the tundras of Asia.

The Volga is the largest river in Europe. It flows through lowland covered with forests and farms. It forms many curves in its course, and is navigable in summer for its entire length. (Page 81.) Tell where it rises and into what it flows. The Danube is the second largest, the Dnieper the third largest, river in Europe. The Rhine is noted for its beautiful scenery.

Most of the rivers of Europe are navigable, and are connected with each other by canals; thus forming important inland waterways for the interchange of products.

AN ELK HUNT. RUSSIA.

THE STEPPES. RUSSIA.

Europe is noted for its beautiful lake scenery. There are many lakes among the mountains, those of the Alps and of Scotland and Ireland being visited by many tourists. There are many glacial lakes in the northern plains and salt lakes in the *steppe* region.

Europe has a milder climate than any other grand division in the same belt. The chief reason for this is the great extent of coast, with no mountain wall to keep the warm, moist westerly winds from blowing far inland. The southern part has an almost tropical climate, because the mountain wall shuts off the cold northern winds, while the warm southwest winds blow over the entire southern part. In winter cold, dry winds, and in summer hot, dry winds, blow over the eastern lowlands. These winds are dry because the moisture is taken out of them as they cross the land surface of Asia.

From the product map, page 173, trace and locate the principal forest, grain, fruit, and mineral regions of Europe. Locate the fur-producing section. Make a list of the grains, fruits, and minerals found in Europe. Tell what you think is the leading occupation of each production section. In the fruit region great quantities of wine are produced.

Tell what animals live in Europe. (Page 41.) In which section is the mule the beast of burden? In which the reindeer? Besides the reindeer and the domestic animals common to North America, Europe has domesticated the buffalo and the camel. The buffalo is the beast of burden on the Plain of Hungary and the Balkan Plateau. The camel is used for crossing the steppes. Sheep are raised in Russia and western Europe for their products of wool and meat. Goats and cattle are extensively raised in the mountainous districts for their products.

What is the principal race represented in Europe? (Page 45.) What names are given to the different nations in the countries of Europe? Who are the representatives of the Yellow Race in Europe?

Farming is the leading occupation in the greater part of Europe. In the highlands cattle-raising and dairying are important industries. Manufacturing and trade are leading occupations in the entire western part. The great coal and iron fields of this section make manufacturing easy. The eastern parts and surface to become extremely cold. (Page 22.) In the summer many tourists visit the North Cape to see the "midnight sun."

Lumbering, farming, dairying, and fishing are the leading occupations. The Norwegian fisheries are, next to those of the United States and Great Britain, the most valuable in the world. The Lofoden Islands have the most important cod-fisheries. *Bergen* is the great fish-market for the mainland. Sweden exports iron ore. Manufactures are increasing. Several railroads connect the interior with the coast.

CATHEDRAL OF ST. BASIL THE BEAUTIFUL, MOSCOW

Stockholm, "Northern Venice," is located on a group of islands in a small lake. It is the largest city on the peninsula, and has large iron works. *Christiania* and *Gottenburg* have large lumber mills and carry on an extensive trade in lumber.

Lapland lies in the northern part of Norway and Sweden. *Tromso* is one of the Lapp villages. (Page 48.)

RUSSIA.

In what part of Europe is Russia situated Bound it. What seas lie between Russia a Asia? What peninsula extends fro the southern coast? Wha gulfs indent the wes ern coast? What large sea indents the northern côast? Of what oce is it an arm? What mountains and river are the eastern boundary?

MOSCOW.

ST. PETERSBURG ON THE NEVA

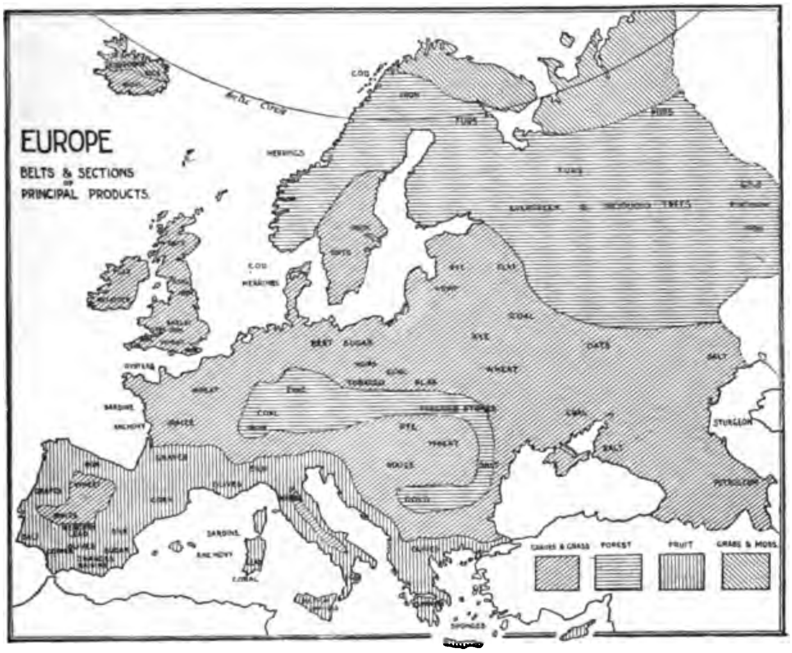
In what great surface division does Russia li In what part of this plain do the steppes lie? what the tundras? Trace and describe the tw largest rivers on the southern slope; the tw largest on the northern slope. Trace the wate parting? What mountain range in the sout eastern part? Name three lakes in the wester part. Compare the climate of the northern pa with that of the southern part. What section may be affected by the sea?

In what product sections does Russia lie? Mak a list of the different products. In what par i petroleum a great product? The petroleum well of *Baku* are the richest in the world. Locate th capital, *St. Petersburg; Riga*, *Warsaw*, *Moscow* *Kief*, *Odessa*.

Russia has long, cold winters, th

with all other cities of Great Britain and by steamship lines with the cities of the entire world.

Paris, "The Magnificent," is the second largest city in Europe. Its streets are beautifully laid out, and it has many magnificent buildings. There are many picture and art galleries — the latter containing treasures of great value. Paris is one of the great musical, art, and literary centers in the world. Many people go there to study music, painting, sculpture, science, and medicine. It is the social and fashion center of the world. It is noted for its great variety of small industries—the making of ribbons, artificial flowers, etc.



Berlin is the third city in size in Europe. It is an intellectual center of great importance. It is noted for its numerous institutions of learning, attended by students from many parts of the world; its museums, theaters, libraries, and publishing houses. It is a great manufacturing, commercial, and railroad center, being connected by railroads with the seaports and all other important cities of Europe. *Hamburg* is the most important seaport on the mainland of Europe. It has regular steamship communication with New York and other important seaports of the world. It is the trade center for the exports and imports of the middle section of Europe. Locate it.

Vienna is the principal inland center of trade between the eastern and western parts of Europe. It has water connection by means of the Danube and canals, and by means of many important railroads with all the leading seaports and trade centers of Europe.

In *religion* more than half the Europeans are Roman Catholic. The Pope, who is the spiritual ruler of all the Roman Catholics in the world, resides at Rome. His residence is called the Vatican. St. Peter's Cathedral in Rome is the finest church in the world.

THE BRITISH ISLANDS.

Many islands comprise this group, but only two, Great Britain and Ireland, are of much importance. Great Britain, the largest island of Europe, is the most important island in the world.

ENGLISH VILLAGE SCENES

The *British Empire* is comprised of the United Kingdom of Great Britain and Ireland and a great number of colonial possessions.

Bound each of the four countries which comprise the British Islands. What point at the southwestern extremity of England? What cape on the southern extremity of Ireland? A great number of lighthouses are placed on the coasts of these islands. Can you tell why?

Describe the surface of these islands. Tell which country is most mountainous; which has the largest rivers? In which direction do they flow? From its position which country must be coolest? How must the sea affect the climate of this entire island group?

What are the products of any of these countries? (See product map.) What industries are

promoted by the productions, and by the sea-coast, with its good harbors?

Manufacturing is the leading occupation of these islands. It engages more than one-half the people. Farming, mining, and fishing are other important occupations.

HARVESTING IN SCOTLAND.

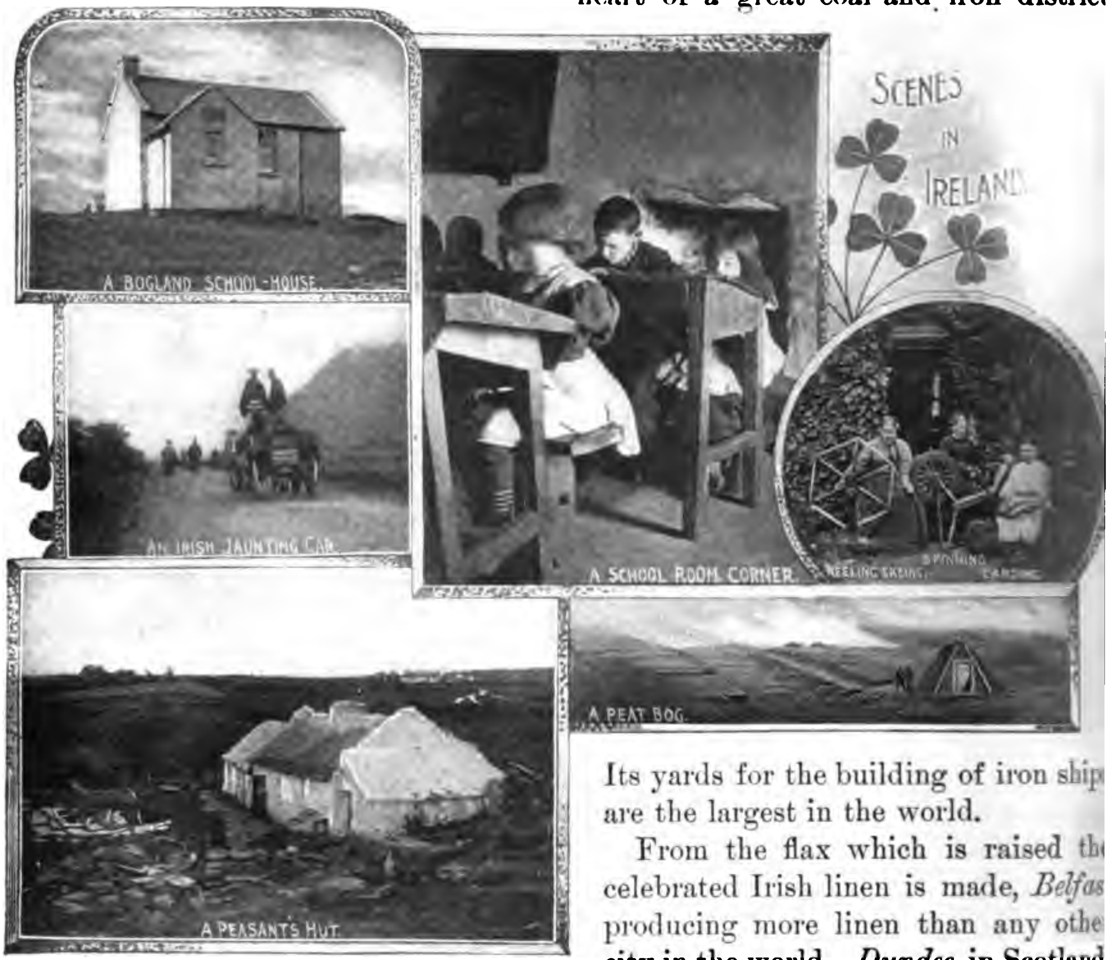
A SCOTCH MOOR.

A GYPSY PEDDLER'S CART AND HOME SCOTLAND.

England, according to its size, leads all other countries in the world in the extent and variety of its manufactures. It leads all countries in the manufacture of cotton and woolen goods. *Manchester* is the largest cotton-manufacturing city in the world. *Leeds* is noted for its woolen manufactures.

From its rich mines of coal and iron, great iron industries have grown up which have caused England to rank second only to the United States in its iron manufactures. *Birmingham* is the leading city of Europe in this industry. *Sheffield* is noted for the manufacture of steel rails and cutlery. As you see, the great manufacturing district lies in the northern and central parts. (See map, page 167.) *Liverpool*, the second city in size and trade in England, is the outlet for this manufacturing district. Food products for the manufacturing towns, and raw material for the manufactures, pass through this port. The fisheries of the British Isles rank second only to those of the United States. The herring, cod, and haddock are of most value.

The uplands and hillsides of England are adapted to farming and grazing. Careful attention is given to these industries, in order that as much food-stuff as possible may be produced to supply the great mining and manufacturing districts. Many food products are imported, however.



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About one-fourth of the area of Germany is covered with forests. Lumbering is an important occupation in the southern part. Farming, however, is the leading occupation. Rye is the principal grain. From its flour the rye or black bread of the peasantry is made. Potatoes are extensively cultivated. Grapes from which wine is manufactured are cultivated in the southwestern part. Tobacco, flax, and beets for beet-sugar, are extensively grown in some localities. Germany leads the world in the cultivation of hops, which are used in the manufacture of beer. The fisheries of the coast and rivers are important.

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Locate the capital; also locate *Dresden, Munich, Cologne, Leipsic, Frankfort-on-the-Main.*

A LITTLE DUTCH GIRL

Education is general and advanced. There are many universities. The most important are in Berlin, Leipsic, and Munich.

Dresden, beautifully situated on both sides of the Elbe, is noted for its art treasures and fine architecture. It is a great industrial and trade center.

Leipsic is the most important inland trade center in Germany. It is the center of the German book-trade. It also has a great trade in furs and woolen goods. All trade is carried on in this city by means of fairs held at stated periods during the year.

A DUTCH FARM

Cologne is an important trade center in the midst of a large manufacturing district. Sea-going vessels can easily reach this city.

Frankfort-on-the-Main is a leading trade and banking center. *Munich* is a great art center. It is also the largest beer-brewing city in the world.

Germany has more railroads than an other country excepting the Unite States. Its rivers are navigable an are connected by canals. Thus, yo see, there are excellent means fo carrying on a large foreign an domestic trade.

HOLLAND.

SPINNING, HOLLAND

MILK PEDDLER, HOLLAND

Locate this country and tell what wate and what countries border it. What rive crosses it? Describe th surface of Holland. I what production section does it li What is the capital? What important seaport is in this country?

Holland is one of the smallest countries in the world. The land is generally low and flat. Some parts of it are so low that the sea has to be kept out by dykes. Windmills have been erected in all parts of the country. They are used to grind grain and also to pump out the water which stands on the low ground. Canals intersect the country and serve for navigation and drainage. In summer flat-bottomed boats ply on these canals; in winter ice-boats are used for transporting products to the trade centers. Men and women skate to market on these canals. The chief occupations are farming and dairying. Butter and cheese are important exports. The most important manufactures are cotton and linen goods and beet-sugar.

There are many railroads which connect the seaports with cities in other countries. The Dutch, as the people are called, are cleanly and industrious. In their dress they have many queer costumes.

Amsterdam, the chief trade center, is built on piles. Canals serve as streets and intersect the city in every direction. *Rotterdam* is one of the most important commercial centers in Europe.

GOING TO [illegible], SWEDEN

HAYMAKING IN NORWAY.

HAMMERFEST, NORWAY.

DENMARK.

What part of the Danish Peninsula does this little country occupy? What waters lie around it? Describe its surface. In what production section does it lie? What is its capital?

About one-half the people are engaged in farming, one-fourth in manufacturing, and the rest in the fisheries and in trade.

Copenhagen is noted for its public libraries and university.

SCANDINAVIA.

What two countries occupy this peninsula? Which borders on the Atlantic? Which borders on the Baltic Sea? Which extends farther north? Name any projections or indentations on the coast. Which country has the greater number of rivers, and into what do they flow? Which country consists mostly of highlands? Judging from its position, what would be the climate? How is this modified by the sea? What effect has the mountain wall on the coast? What group of islands, noted for their cod-fisheries, lie near the northeastern coast? In which great production sections do these countries lie? What are some of the products? Which parts are most thickly settled? Can you think of any reason for this? Locate the capital of each country. Locate *Gottenburg*, *Bergen* *Trondhjem*, *Tromso*.

Because of the westerly winds and its western sea-coast Norway has a more even climate than Sweden. The winters of Sweden are extremely cold, while the short summers are very hot. This is because in this northern region the midsummer day is very long and the land surface becomes greatly heated, while in winter the long nights cause the land surface to become extremely cold. (Page 22.) In the summer many tourists visit the North Cape to see the "midnight sun."

Lumbering, farming, dairying, and fishing are the leading occupations. The Norwegian fisheries are, next to those of the United States and Great Britain, the most valuable in the world. The Lofoden Islands have the most important cod-fisheries. *Bergen* is the great fish-market for the mainland. Sweden exports iron ore. Manufactures are increasing. Several railroads connect the interior with the coast.

CATHEDRAL OF ST. BASIL THE BEAUTIFUL, MOSCOW

Stockholm, "Northern Venice," is located on a group of islands in a small lake. It is the largest city on the peninsula, and has large iron works. *Christiania* and *Gottenburg* have large lumber mills and carry on an extensive trade in lumber.

Lapland lies in the northern part of Norway and Sweden. *Tromso* is one of the Lapp villages. (Page 48.)

RUSSIA.

In what part of Europe is Russia situated? Bound it. What seas lie between Russia and Asia? What peninsula extends from the southern coast? What gulfs indent the western coast? What large sea indents the northern coast? Of what ocean is it an arm? What mountains and river are on the eastern boundary?

IVERSKAYA GATE, MOSCOW.
ST. PETERSBURG ON THE NEVA

In what great surface division does Russia lie? In what part of this plain do the steppes lie? **In what the tundras? Trace and describe the two largest rivers on the southern slope; the two largest on the northern slope. Trace the water-parting? What mountain range in the south-eastern part? Name three lakes in the western part. Compare the climate of the northern part with that of the southern part. What sections may be affected by the sea?**

In what product sections does Russia lie? Make a list of the different products. In what part is petroleum a great product? The petroleum wells of *Baku* are the richest in the world. Locate the capital, *St. Petersburg; Riga, Warsaw, Moscow, Kief, Odessa.*

Russia has long, cold winters, the

streams and lakes being frozen for from three to six months of the year.

Farming is the principal occupation. Lumbering, cattle, and sheep-raising, hunting and trapping, fishing and mining, are important and leading occupations. *Nijni Novgorod* is the great fur-trade center of European and Asiatic Russia. Though Russia is a raw-material producing country, manufacturing is steadily increasing. Wheat, flax, hemp, horse-hair for making haircloth, and bristles for making brushes, are exported; while iron and steel goods, machinery, and raw-cotton are imported. The large rivers are all navigable during the summer months. They are connected with each other and with the sea by canals and by a few lines of railroad. Annual fairs are held in different localities for the exchange of products. The largest and most important are held at *Nijni Novgorod*, *Kief*, and *Kharkov*.

A FRENCH HAY-CART IN THE MEADOWS NEAR THE VILLAGE OF JOAN OF ARC.

Russia owns Siberia, which stretches to the Pacific Ocean. The longest single line of railway in the world is completed from St. Petersburg to *Vladivostock* on the Pacific Coast.

Russia is not as old in civilization as most of the other countries of Europe; hence there are fewer institutions of learning and the lower classes are poor and ignorant.

St. Petersburg, which is connected with the sea by a canal, is the leading commercial port in the country. It was founded by Peter the Great in 1703, that the capital of the empire might be near the sea. *Moscow*, the old capital, is the leading commercial, industrial, and railway center. It is the publishing and book-making center of Russia. It also has the leading university of Russia.

AMONG THE PYRRENNES.
PLOWING BETWEEN ROWS OF INDIAN CORN WITH COWS

FRANCE.

In what part of Europe is France? What waters and what countries bound it? By what is it separated from the British Isles? Which part of France lies in the lowlands? Which in the highlands? What mountains are on the eastern boundary? What on the southern boundary? What mountains form the water-parting of France? What river flows into the Gulf of Lyons? Between what two mountain ranges does it flow? Describe the Seine and the Loire rivers. What large city and what important seaport are on the Seine? In what product section does France lie?

BRITTANY SHEEP.

SHEPHERDS ON THE GREAT PLAINS.

A FRENCH VILLAGE.

PEASANT WOMAN SEWING, IN THE

A SCHOOL IN BRITTANY.

The greater part of France has a delightful climate. The western part is similar to the pine-barrens of our own country. (Page 33.) Farming, cattle- and sheep-raising, silk-culture, manufacturing, and fishing are the principal occupations. On the great plains, or *Landes*, sheep-raising is an especially important industry. Wheat is the principal grain; beets, flax, hemp, and fruits are the chief farm products. There are many vineyards from whose product wines are manufactured. *Bordeaux* is the great wine-shipping port.

Silk culture is an important industry, and France leads the world in the manufacture of all kinds of silk goods. Locate *Lyons*, far-famed for its manufacture of silks, satins, and velvets. There are a great number of small manufactures in France, as those of dress and ornament, furniture, carriages, etc. Porcelain and glassware are also important manufactures.

Locate *Marseilles*, the third city in France. It is an important port and has steamship communication with the principal Mediterranean ports and with Japan, China, and India. Locate *Lisle*, one of the leading linen-manufacturing cities in Europe. What can you tell of *Paris*, the capital of France. (Page 173.)

Railroads connect all cities with the coast and with other trade and industrial centers of Europe.

BELGIUM.

Locate this country and tell by what it is bounded. What is the capital? What is the principal seaport?

Belgium is a busy little country. Farming, mining, and manufacturing are the principal occupations. It is called the "Garden of Europe" because the land is cultivated so carefully. Flax, beets, and grains are the principal products. Linen and woolen goods are the chief manufactures. The people are much like those of France.

A SWISS FARM.

PEASANTS HAYMAKING.

SPAIN and PORTUGAL.

Locate these two countries in the Spanish Peninsula. Tell what waters and what countries border each. From the relief map describe the surface. From the position and sea-coast of Spain and Portugal what climate would you expect to find? How must the height of this plateau modify the warmth? The plateau is very dry, so that much of it has to be irrigated for cultivation. What part of our own country is similar in this respect?

In what product belt do these countries lie? What are the products? Locate the capital of each country. Locate *Barcelona* and *Oporto*, the leading seaports. Locate *Cartagena*, *Cadiz*.

Small farming for home consumption is the leading occupation. As a rule, the people of Spain are not progressive, and no occupation is pursued with any degree of energy.

Spain is noted for its fruit products, which are produced on the coastal plains. Wines, olive oil, and raisins are the most important. Cork, from the cork-oak, is a valuable commercial product.

SWITZERLAND.

Locate this country. Tell in what surface region it lies. In what product section? What must the climate be? Locate the capital and the chief city.

On the southern slope all the products of the different belts may be found as one ascends the mountains. Forests and pasture land constitute the greater part. Butter and cheese are exported. The Swiss are famed for their wood-carving. Great care has been given to hand-training, and these people are skilled in all kinds of handicraft. Swiss watches and clocks and Swiss embroideries are far-famed.

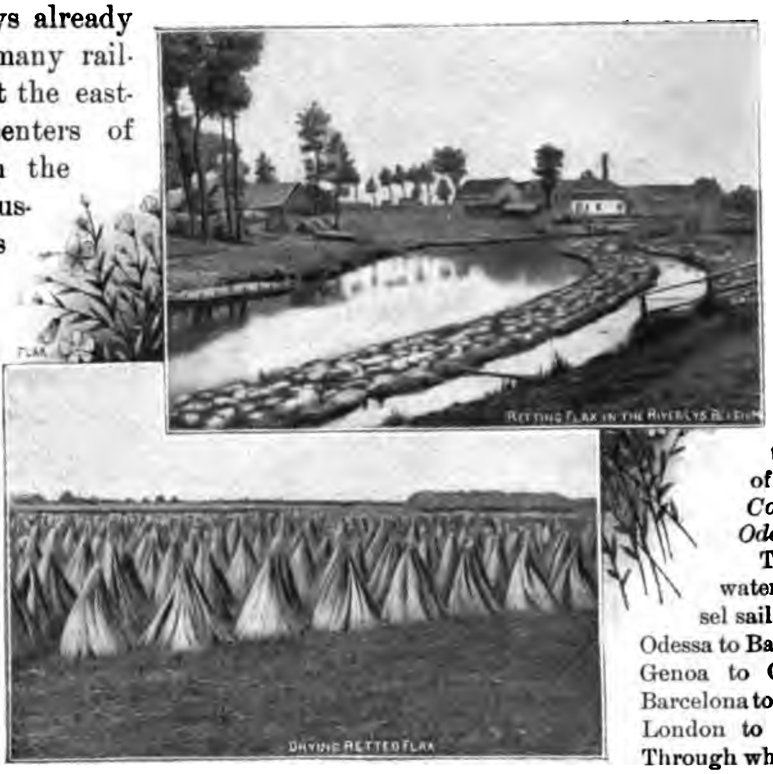
A LACEMAKER.

ITALY.

Locate and tell what waters and land bound this country. What mountains on its northern and western borders? What mountains traverse it entire length? What plains are inclosed in the northern part? By what river are they drained? Locate the volcanoes Etna and Vesuvius. In what product region does Italy lie? What are some of the products? Name and locate the

mountainous regions are better adapted to the producing of raw material—wool, hides, horse-hair, and grains.

The western part of Europe is more thickly settled than any other part. There are many great mining, manufacturing, and commercial centers. Besides the waterways already spoken of, many railroads connect the eastern trade centers of Europe with the western industrial centers and with the sea.



What is the largest country of Europe? What the smallest? What two countries occupy the Scandinavian Peninsula? What two the Spanish Peninsula? What one the Danish Peninsula? What one the Italian Peninsula? What one the Grecian Peninsula? What countries border on the Arctic Ocean? What on the Baltic Sea? What on the North Sea? What on the Bay of Biscay? What on the Mediterranean Sea? What on the Black Sea? Which countries have no sea-coast? Which countries lie wholly in the lowland? Which lie partly in the highlands? Which one lies wholly in the highlands? What four countries occupy the British Isles? Which is the largest? Which the smallest? Which border on the North Sea? Which border on the Atlantic Ocean? What sea and what channel lie between Great Britain and Ireland?

In *government* France and Switzerland are republics, similar to that of the United States. Find out how each of the other countries is governed and what title is given to the ruler of each.

Locate *London*, the largest city; *Paris*, the third largest city; *Berlin*, the fifth largest city, in the world. Locate *Liverpool*, an important seaport. Locate *Archangel*, the most important seaport on the White Sea. Locate *Hamburg*, *Riga*, *Amsterdam*, *Havre*, *Oporto*, *Barcelona*, *Genoa*,—the birthplace of Columbus,—*Constantinople*, *Odessa*.

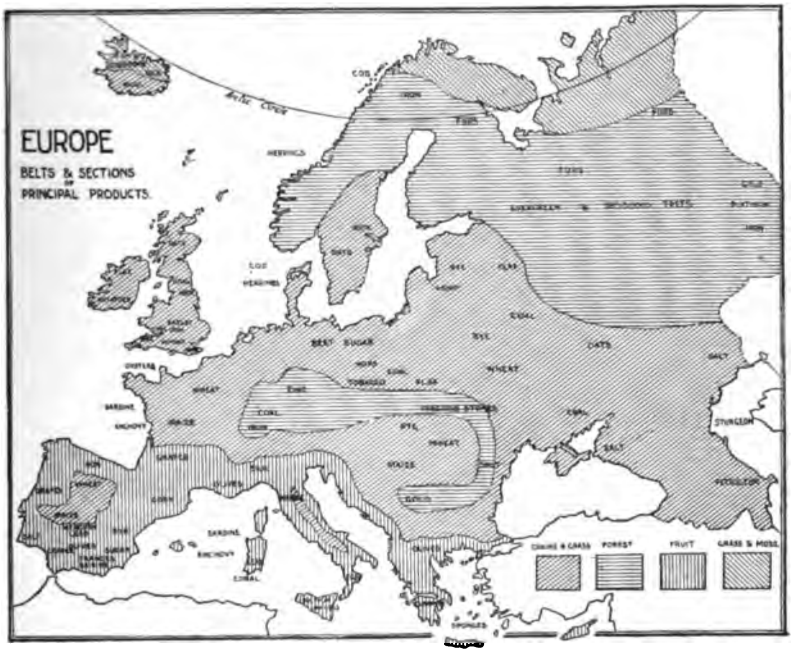
Through what waters would a vessel sail in going from Odessa to Barcelona? From Genoa to Oporto? From Barcelona to London? From London to St. Petersburg? Through what waters would a vessel sail from London to the Indian Ocean by the nearest route? From Liverpool to London? From Liverpool to Odessa? From Liverpool to Riga?

London, on the Thames River, is the largest and the most important commercial port in the world. Its local industries are many and varied, and it is the leading printing and book-making city in the world. It has many fine buildings, and is a leading literary and art center. It is connected by railroad

with all other cities of Great Britain and by steamship lines with the cities of the entire world.

Paris, "The Magnificent," is the second largest city in Europe. Its streets are beautifully laid out, and it has many magnificent buildings. There are many picture and art galleries — the latter containing treasures of great value. Paris is one of the great musical, art, and literary centers in the world. Many people go there to study music, painting, sculpture, science, and medicine. It is the social and fashion center of the world. It is noted for its great variety of small industries—the making of ribbons, artificial flowers, etc.

Berlin is the third city in size in Europe. It is an intellectual center of great importance. It is noted for its numerous institutions of learning, attended by students from many parts of the world; its museums, theaters, libraries, and publishing houses. It is a great manufacturing, commercial, and railroad center, being connected by railroads with the seaports and all other important cities of Europe. *Hamburg* is the most important seaport on the mainland of Europe. It has regular steamship communication with New York and other important seaports of the world. It is the trade center for the exports and imports of the middle section of Europe. Locate it.



Vienna is the principal inland center of trade between the eastern and western parts of Europe. It has water connection by means of the Danube and canals, and by means of many important railroads with all the leading seaports and trade centers of Europe.

In *religion* more than half the Europeans are Roman Catholic. The Pope, who is the spiritual ruler of all the Roman Catholics in the world, resides at Rome. His residence is called the Vatican. St. Peter's Cathedral in Rome is the finest church in the world.

THE BRITISH ISLANDS.

Many islands comprise this group, but only two, Great Britain and Ireland, are of much importance. Great Britain, the largest island of Europe, is the most important island in the world.

ENGLISH VILLAGE SCENES.

The *British Empire* is comprised of the United Kingdom of Great Britain and Ireland and a great number of colonial possessions.

Bound each of the four countries which comprise the British Islands. What point at the south western extremity of England? What cape o the southern extremity of Ireland? A great number of lighthouses are placed o the coasts of these islands. Can you tell why

Describe the surface of these islands. Tell which country is most mountainous; which has the largest rivers? In which direction do they flow? From its position which country must be coolest? How must the sea affect the climate of this entire island group?

What are the products of any of these countries? (See product map.) What industries are

promoted by the productions, and by the sea-coast, with its good harbors?

Manufacturing is the leading occupation of these islands. It engages more than one-half the people. Farming, mining, and fishing are other important occupations.

HARVESTING IN SCOTLAND.

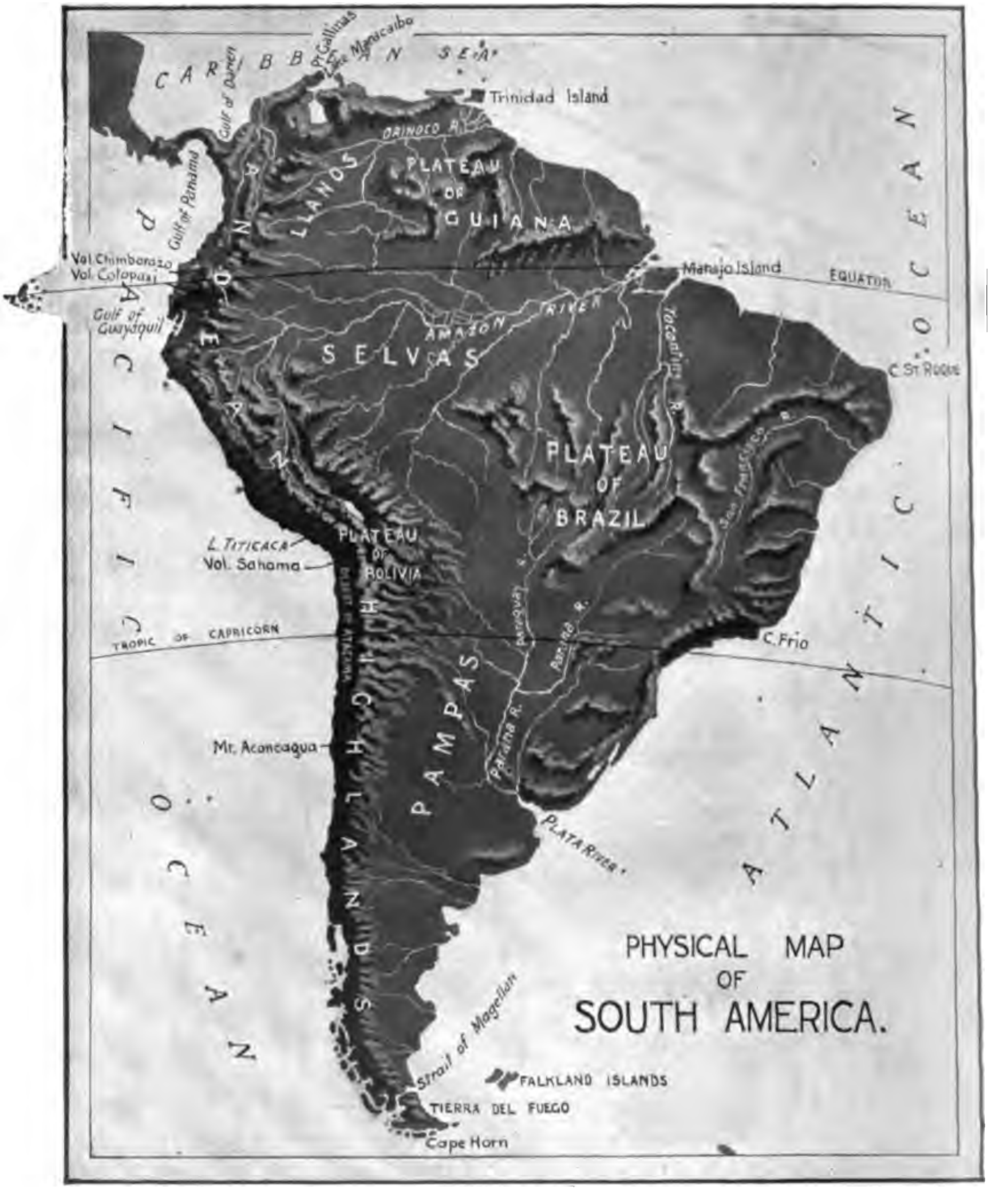
A SCOTCH MOOR.

A GYPSY PEDDLER'S CART AND HOME SCOTLAND.

England, according to its size, leads all other countries in the world in the extent and variety of its manufactures. It leads all countries in the manufacture of cotton and woolen goods. *Manchester* is the largest cotton-manufacturing city in the world. *Leeds* is noted for its woolen manufactures.

From its rich mines of coal and iron, great iron industries have grown up which have caused England to rank second only to the United States in its iron manufactures. *Birmingham* is the leading city of Europe in this industry. *Sheffield* is noted for the manufacture of steel rails and cutlery. As you see, the great manufacturing district lies in the northern and central parts. (See map, page 167.) *Liverpool*, the second city in size and trade in England, is the outlet for this manufacturing district. Food products for the manufacturing towns, and raw material for the manufactures, pass through this port. The fisheries of the British Isles rank second only to those of the United States. The herring, cod, and haddock are of most value.

The uplands and hillsides of England are adapted to farming and grazing. Careful attention is given to these industries, in order that as much food-



PHYSICAL MAP
OF
SOUTH AMERICA.

of learning and for its great printing and publishing industries.

There are several ship-building yards on the English coast. Great Britain has a fine merchant fleet for carrying merchandise to all parts of the world.

Olive Pressing

Describe the scenes in the pictures on the three preceding pages. Compare the scenes with each other, and with similar scenes in our own country. Find out what you can about each scene.

In The Vineyard

GERMANY.

Bound this country. Tell which part **lies in the highlands**; which in the lowlands. **Trace the rivers**, and tell into what bodies of **water they flow.** In what product sections **does Germany lie?** Describe the scenes on this **page.**

About one-fourth of the area of Germany is covered with forests. Lumbering is an important occupation in the southern part. Farming, however, is the leading occupation. Rye is the principal grain. From its flour the rye or black bread of the peasantry is made. Potatoes are extensively cultivated. Grapes from which wine is manufactured are cultivated in the southwestern part. Tobacco, flax, and beets for beet-sugar, are extensively grown in some localities. Germany leads the world in the cultivation of hops, which are used in the manufacture of beer. The fisheries of the coast and rivers are important.

Germany is rich in minerals and building stone, and yields more zinc, copper, and silver than any other European country. Coal and iron are abundant, and Germany ranks next to England in iron manufactures.

In manufacturing and commerce Germany ranks among the leading countries of the world. It ranks first in the production of chemicals and beet-sugar. *Magdeburg* is the chief center of the beet-sugar industry. The most important manufactures are cotton, woolen, silk, and linen goods. Musical instruments, toys, dolls, clocks, and jewelry are extensively manufactured and sent to other countries.

Locate the capital; also locate *Dresden, Munich, Cologne, Leipsic, Frankfort-on-the-Main.*

Education is general and advanced. There are many universities. The most important are in Berlin, Leipsic, and Munich.

A LITTLE DUTCH GIRL

Dresden, beautifully situated on both sides of the Elbe, is noted for its art treasures and fine architecture. It is a great industrial and trade center.

Leipsic is the most important inland trade center in Germany. It is the center of the German book-trade. It also has a great trade in furs and woolen goods. All trade is carried on in this city by means of fairs held at stated periods during the year.

A DUTCH FARM

Cologne is an important trade center in the midst of a large manufacturing district. Sea-going vessels can easily reach this city.

Frankfort-on-the-Main is a leading trade and banking center. *Munich* is a great art center. It is also the largest beer-brewing city in the world.

Germany has more railroads than any other country excepting the United States. Its rivers are navigable and are connected by canals. Thus, you see, there are excellent means for carrying on a large foreign and domestic trade.

HOLLAND.

Locate this country and tell what waters and what countries border it. What river crosses it? Describe the surface of Holland. In what production section does it lie? What is the capital? What important seaport is in this country?

SPINNING. HOLLAND.

MILK PEDDLER. HOLLAND.

Holland is one of the smallest countries in the world. The land is generally low and flat. Some parts of it are so low that the sea has to be kept out by dykes. Windmills have been erected in all parts of the country. They are used to grind grain and also to pump out the water which stands on the low ground. Canals intersect the country and serve for navigation and drainage. In summer flat-bottomed boats ply on these canals; in winter ice-boats are used for transporting products to the trade centers. Men and women skate to market on these canals. The chief occupations are farming and dairying. Butter and cheese are important exports. The most important manufactures are cotton and linen goods and beet-sugar.

There are many railroads which connect the seaports with cities in other countries. The Dutch, as the people are called, are cleanly and industrious. In their dress they have many queer costumes.

Amsterdam, the chief trade center, is built on piles. Canals serve as streets and intersect the city in every direction. *Rotterdam* is one of the most important commercial centers in Europe.

GOING TO CHURCH, SWEDEN.

HAYMAKING IN NORWAY.

HAMMERFEST, NORWAY.

DENMARK.

What part of the Danish Peninsula does this little country occupy? What waters lie around it? Describe its surface. In what production section does it lie? What is its capital?

About one-half the people are engaged in farming, one-fourth in manufacturing, and the rest in the fisheries and in trade.

Copenhagen is noted for its public libraries and university.

SCANDINAVIA.

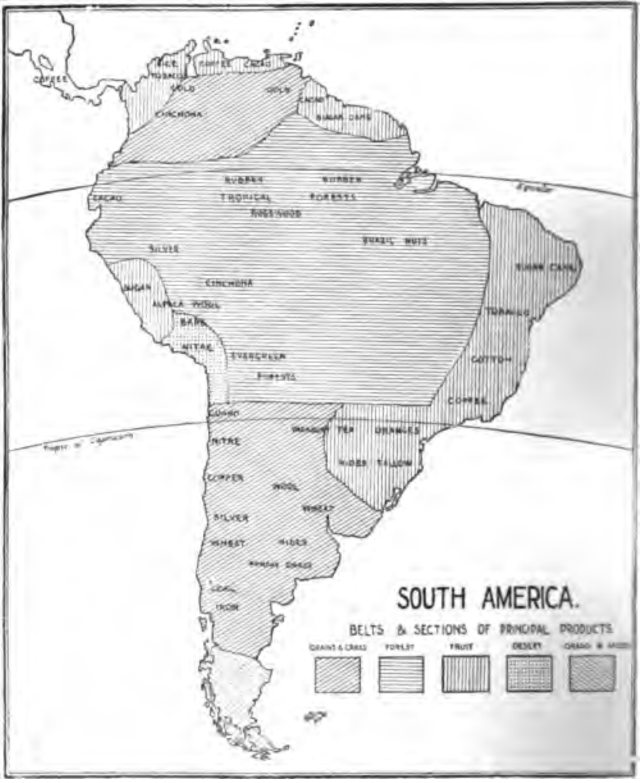
What two countries occupy this peninsula? Which borders on the Atlantic? Which borders on the Baltic Sea? Which extends farther north? Name any projections or indentations on the coast. Which country has the greater number of rivers, and into what do they flow? Which country consists mostly of highlands? Judging from its position, what would be the climate? How is this modified by the sea? What effect has the mountain wall on the coast? What group of islands, noted for their cod-fisheries, lie near the northeastern coast? In which great production sections do these countries lie? What are some of the products? Which parts are most thickly settled? Can you think of any reason for this? Locate the capital of each country. Locate *Gottenburg, Bergen Trondhjem, Tromso.*

Because of the westerly winds and its western sea-coast Norway has a more even climate than Sweden. The winters of Sweden are extremely cold, while the short summers are very hot. This is because in this northern region the midsummer day is very long and the land surface becomes greatly heated, while in winter the long nights cause the land cinchona, or Peruvian bark, a valuable medicine; vanilla-beans, from which vanilla is extracted; cabinet- and dye-woods, Brazil nuts, and cocoanuts.

MILK SELLER, SANTIAGO.

Farming, grazing, and mining are the leading occupations of South America. Manufacturing is slowly developing in the Plata Basin, and in Brazil and Uruguay. Farming is chiefly carried on in the Plata and Orinoco basins, on the Brazilian slopes and coastal plain, and on the coastal plains and uplands of Chili. Grazing is the principal occupation of the people of the Llanos, the Pampas, the uplands, and the mountain sides. Great herds of cattle and horses and flocks of sheep graze on these plains. Hides and llama and sheep's wool are exported to the United States and Europe.

All the products of the tropical and temperate regions are produced in the farming districts; sugar is the principal product. Coffee is, however, the most important product of South America, and is extensively grown in Brazil and Venezuela. It was brought to Brazil from the Eastern Continent, and now sixty per cent. of all the coffee in the world is produced here. *Rio Janeiro* is the largest coffee market in the world. Cotton, sugar, rice, tobacco, and tropical fruits are extensively grown on the coastal plains of the tropical regions. *Bahia* and *Pernambuco* are the principal shipping ports for these products. In the hot belt there is no special season for sowing or harvesting, and several crops are produced every year. Grains and fruits of the temperate regions are grown on the uplands and in the Plata River Basin. Maté, or Paraguay tea, is cultivated in



streams and lakes being frozen for from three to six months of the year.

Farming is the principal occupation. Lumbering, cattle, and sheep-raising, hunting and trapping, fishing and mining, are important and leading occupations. *Nijni Novgorod* is the great fur-trade center of European and Asiatic Russia. Though Russia is a raw-material producing country, manufacturing is steadily increasing. Wheat, flax, hemp, horse-hair for making haircloth, and bristles for making brushes, are exported; while iron and steel goods, machinery, and raw-cotton are imported. The large rivers are all navigable during the summer months. They are connected with each other and with the sea by canals and by a few lines of railroad. Annual fairs are held in different localities for the exchange of products. The largest and most important are held at *Nijni Novgorod*, *Kief*, and *Kharkov*.

A FRENCH HAY-CART IN THE MEADOWS NEAR THE VILLAGE OF JOAN OF ARC.

AMONG THE PYRRENNES.

PLOWING BETWEEN ROWS OF INDIAN CORN WITH COWS

Russia owns Siberia, which stretches to the Pacific Ocean. The longest single line of railway in the world is completed from St. Petersburg to *Vladivostock* on the Pacific Coast.

Russia is not as old in civilization as most of the other countries of Europe; hence there are fewer institutions of learning and the lower classes are poor and ignorant.

St. Petersburg, which is connected with the sea by a canal, is the leading commercial port in the country. It was founded by Peter the Great in 1703, that the capital of the empire might be near the sea. *Moscow*, the old capital, is the leading commercial, industrial, and railway center. It is the publishing and book-making center of Russia. It also has the leading university of Russia.

the country. They, with the half-breeds, hold the powers of government. Foreigners are active in developing the whole continent. All work is done by the foreigners, Indians, and Negroes.

There are colleges and universities for educating the higher classes of people in South America, but the half-breeds, Indians, and Negroes are generally uneducated.

As Brazil was settled by people from Portugal, Portuguese is spoken there; in all other countries Spanish is spoken. All the people of South America belong to the Roman Catholic Church.

Name the countries of South America. Which is the largest? Which is second in size? Which is the smallest? Which countries border on the Atlantic Ocean? Which border on the Pacific? Which border on the Caribbean Sea? Which country has the greatest amount of sea-coast? Which has no sea-coast? Which countries lie in the Andes Highlands? Which countries lie mostly in the lowlands? Which lie partly in the Amazon Basin? Which in the Orinoco Basin? Which in the Plata Basin?

All of these countries are Spanish republics excepting Brazil and the Guianas. British Guiana belongs to England; Dutch Guiana to Holland, and French Guiana is a penal colony belonging to France. *Brazil* is a Portuguese republic.

The most progressive countries are Argentina, Chili, Peru, and Colombia. Brazil and Venezuela are next in progress. These countries have schools; those of Argentina being the best in South America.

Name and locate the capital of each country. Which one, having a delightful climate, lies directly under the equator? Locate *Cartegena*, *Maracaibo*, *La Guaira*, *Rio Janeiro*, *Buenos Aires*, *Valparaiso*, *Callao*, *Guayaquil*.

ARGENTINA.

Locate this country. Tell what countries and what waters bound it. Tell what surface division Argentina occupies. What great river drains it? In what product section does it lie? Name some of its leading products. Locate the capital and tell what you can about it. Locate *La Plata*, *Tucuman*, *Cordova*.

Many Italian, French, and Spanish

immigrants are settling in this country. Railroads and manufactures are being rapidly developed.

CHILI.

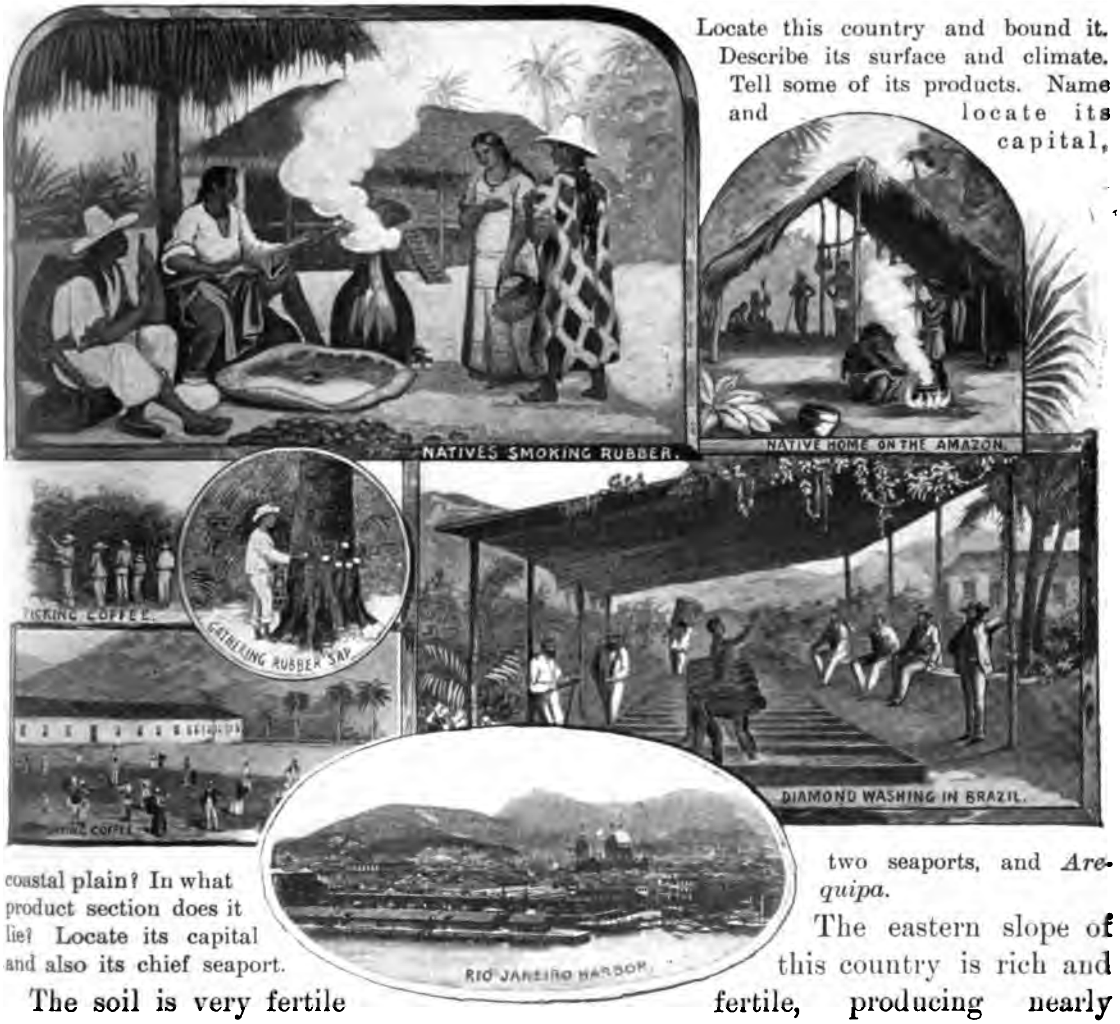
Locate this country and tell its boundaries. What part is mountainous? What part lies in the coastal plain? In what product section does it lie? Locate its capital and also its chief seaport.

The soil is very fertile in the central part. The products are those of temperate and warm-temperate regions. Wheat, barley, and semi-tropical fruits are the chief products. In minerals, the southern part yields iron and coal, the central part copper and silver, and the northern part nitrate of soda—a valuable product which is exported for the making of gunpowder and as a fertilizer. Chili supplies other South American countries with coal.

PERU.

Locate this country and bound it. Describe its surface and climate. Tell some of its products. Name and locate its capital, two seaports, and *Arequipa.*

The eastern slope of this country is rich and fertile, producing nearly every tree and flower, and all fruits and vegetables, which grow in any part of the world. The mountains of Peru yield gold, silver, platinum, copper, tin, iron, coal, petroleum, nitrates, and asphalt. With all this mineral


NATIVES SMOKING RUBBER.
NATIVE HOME ON THE AMAZON.
PICKING COFFEE.
GATHERING RUBBER SAP.
DRYING COFFEE.
DIAMOND WASHING IN BRAZIL.
RIO JANEIRO HARBOR.

wealth, Peru is poor. The mines are so difficult to reach and the cost of building roads and of transportation is so great, that they cannot be worked to advantage. The great deposits of guano and nitrates on the coast are a source of very great revenue, and no other country has contributed so much to the world's fertility.

BRAZIL.

Locate this country and bound it. Name the projections on its coast. Describe its surface. Tell what you can of its climate. Name its various products and locate them as far as possible. Name and locate its capital and tell anything you can about it. Name its principal seaports. Tell for what any of them are noted.

Brazil occupies three-sevenths of the surface of South America. Two-thirds of the people are Indians and Negroes.

The coffee tree is grown over the greater part of Brazil, and is a source of great wealth to its producers. One-third of the coffee is shipped from *Santos.* What is the other great coffee-shipping port? Brazil also has great mineral wealth.

The means of communication are poor, although Brazil has many navigable rivers. Railroads are slowly developing. Lines of steamers run up the Amazon to the boundary of Peru, a distance of two thousand miles. These steamers carry supplies to the settlers and bring back the various products of the tropical forests.

ASIA.

NOTE.—Study the pictures. Trace all boundaries, surface forms, and rivers as you study them. Locate all places mentioned. Make collections of pictures representing the life of the different parts of Asia.

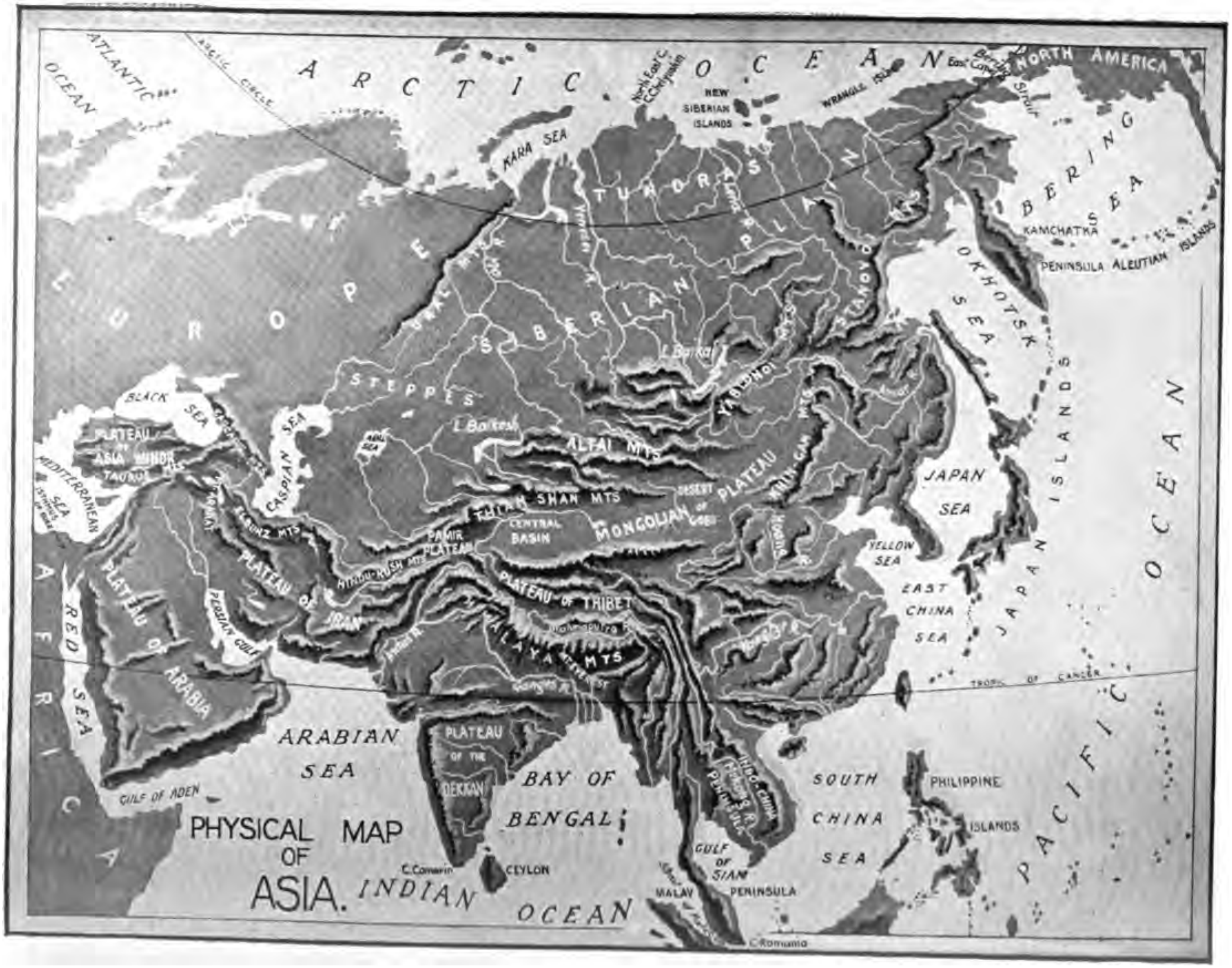
THE HIMALAYA MTS.

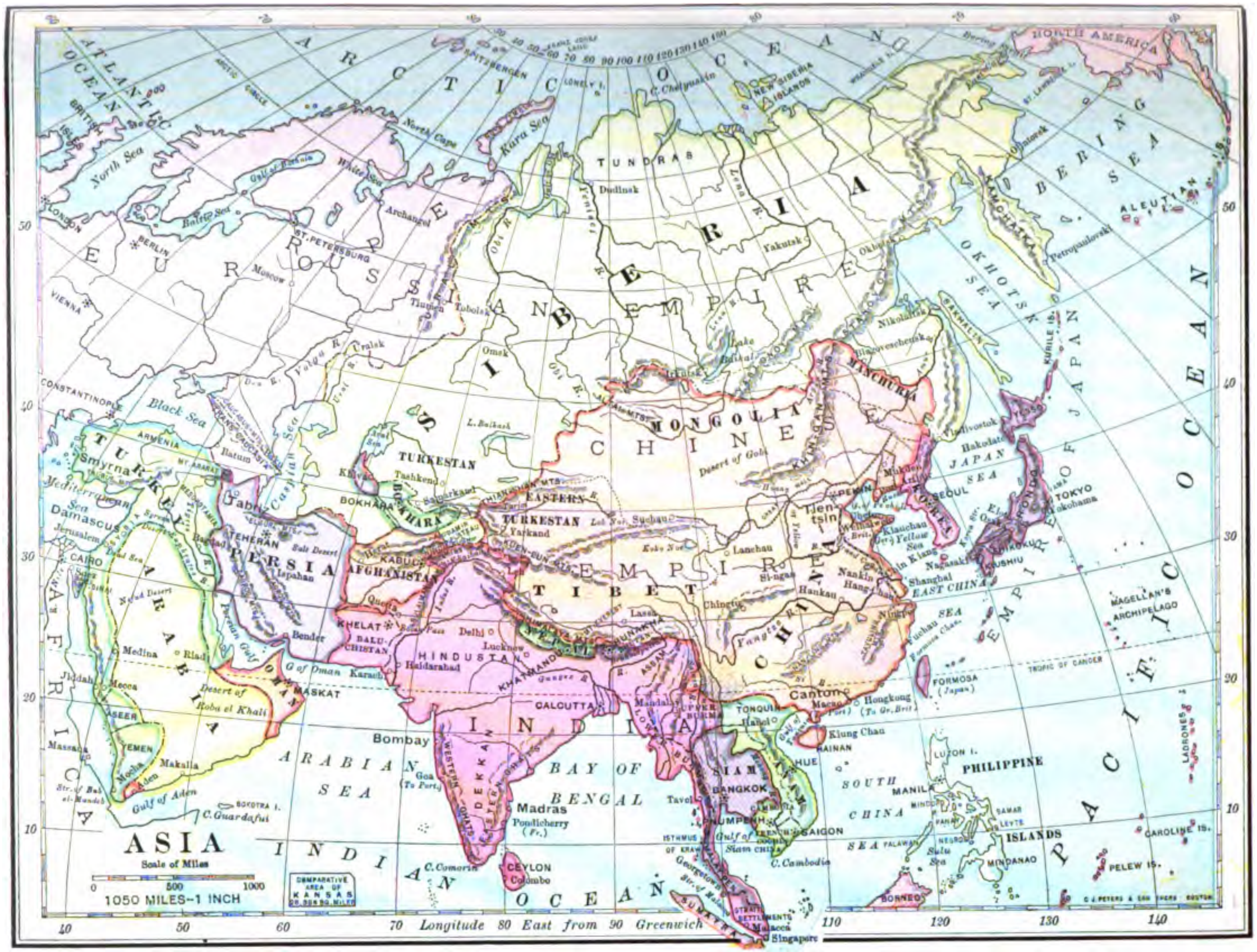
Find Asia on the globe and maps and in the world pictures. How does it compare in size with the other grand divisions? Tell its direction from each of the other grand divisions. Tell its direction from each of the oceans touching it. Tell what large bodies of water and what land bound it. Trace its northern boundary, naming the projections and indentations. What island group and what island lie near this coast? At what point does Asia approach nearest to North America? What chain of islands connects Alaska and Kamchatka? Trace the eastern coast and name the coast forms. By what waters is Kamchatka nearly surrounded? By what the Corean Peninsula? What island empire lies east of this coast? What waters surround it? What island group lies southeast of this coast? Trace the southern coast and name the coast forms as you trace. What island lies southeast of India? Trace the western coast and land boundary. What waters border on the Peninsula of Indo-China? What on the Peninsula of India? What on the Peninsula of Arabia? What on the Peninsula of Asia-Minor? Name the most northern, eastern, and southern capes of Asia.

Trace the rivers which flow down the northern slope. Name and describe the three largest. Trace the rivers which flow down the eastern and southern slopes. Name and describe the course of three on the eastern slope and of three on the southern slope. On the relief map trace the great water-parting of Asia from East Cape to the Pamir Plateau. What mountain ranges on the northern boundary of this great mountain mass? Trace the highlands from the Pamir to the Mediterranean. What three mountain ranges form this mass? Trace the highlands from the Pamir to the highlands of Africa. Note that they nearly close the Persian Gulf and the Red Sea. Find Thibet, the highest plateau in the world; also find the Central Basin and Mongolian Plateau. Trace the Himalaya Mountains, which bound Thibet on the south. Trace other mountain ranges which radiate eastward from the Pamir. What range bounds the Mongolian Plateau on the east? What desert on the Mongolian Plateau? Locate the Plateau of Deccan. What great river basins lie between this plateau and the Himalayas? Locate the plateaus of Iran, Arabia, Asia Minor.

Locate the great northern plain. Name it and tell how it is divided. Locate the Aral Sea; also Lakes Balkash and Baikal. Locate the Plains of Mongolia, which lie in the lower part of the Amur River Basin; also locate the Plains of China which lie in the lower parts of the Hoang and Yangtse river basins.

In what belts of climate does Asia lie? Com-


PHYSICAL MAP OF ASIA.


ASIA
Scale of Miles
0
500
1000
1050 MILES–1 INCH
COMPARATIVE AREA OF KANSAS
Longitude 80 East from 90 Greenwich
ARCTIC OCEAN
ATLANTIC OCEAN
BRITISH ISLES
North Sea
LONDON
BERLIN
VIENNA
CONSTANTINOPLE
EUROPE
RUSSIA
ST. PETERSBURG
Moscow
Archangel
White Sea
Baltic Sea
North Cape
Kara Sea
SPITZBERGEN
NEW SIBERIA ISLANDS
C. Chelyuskin
TUNDRAS
Dudinsk
Yakutsk
Lena R.
Yenisei R.
Obi R.
SIBERIA
RUSSIAN EMPIRE
Tiumen
Tobolsk
Omsk
Uralsk
Volga R.
L. Balkash
Lake Baikal
Irkutsk
Nikolaievsk
Blagoveschensk
Okhotsk
OKHOTSK SEA
KAMCHATKA
Petropavlovsk
BERING SEA
ALEUTIAN IS.
NORTH AMERICA
SAKHALIN
KURILE IS.
Black Sea
Caspian Sea
Aral Sea
Batum
ARMENIA
TURKEY
Smyrna
Mediterranean Sea
Damascus
Jerusalem
CAIRO
Bagdad
Tabriz
TEHERAN
Salt Desert
PERSIA
Ispahan
Bender
Persian Gulf
G. of Oman
MASKAT
OMAN
ARABIA
Medina
Mecca
Jiddah
Riad
Desert of Roba el Khali
YEMEN
Mocha
Aden
Makalla
Massaua
Gulf of Aden
Str. of Bab el-Mandeb
SOKOTRA I.
C. Guardafui
AFRICA
Nefud Desert
TURKESTAN
Tashkend
Khiva
BOKHARA
Samarkand
KABUL
AFGHANISTAN
Herat
Quetta
KHELAT
BALUCHISTAN
Karachi
Bolan Pass
Indus R.
Delhi
Lucknow
HINDUSTAN
Haidarabad
KHATMANDU
NEPAL
Ganges R.
CALCUTTA
Bombay
Goa (To Port.)
DEKKAN
WESTERN GHATS
EASTERN GHATS
Madras
Pondicherry (Fr.)
CEYLON
Colombo
C. Comorin
INDIA
ARABIAN SEA
BAY OF BENGAL
INDIAN OCEAN
ASSAM
Mandalay
UPPER BURMA
BURMA
Tavoy
ISTHMUS OF KRAW
SIAM
BANGKOK
Gulf of Siam
CAMBODIA
SAIGON
C. Cambodia
ANAM
HUE
TONQUIN
Hanoi
Georgetown
Str. of Malacca
STRAITS SETTLEMENTS
Malacca
Singapore
SUMATRA
BORNEO
EASTERN TURKESTAN
Yarkand
Lob Nor
Suchau
TIBET
Lassa
Koko Nor
Lanchau
Si-ngan
MONGOLIA
Desert of Gobi
CHINESE EMPIRE
CHINA
MANCHURIA
PEKIN
Tien-tsin
Hoang Ho or Yellow R.
Yangtse Kiang
Hankau
Nankin
Hangchau
Shanghai
Chingtu
Fuchau
Canton
Macao (To Port.)
Hongkong (To Gr. Brit.)
Kiung Chau
HAINAN
FORMOSA (Japan)
Formosa Chan.
KOREA
SEOUL
Yellow Sea
Kiauchau (To Ger.)
Wei-hai-wei (To Brit.)
Vladivostok
Hakodate
JAPAN SEA
JAPAN
TOKYO
Yokohama
Osaka
Nagasaki
KIUSHIU
EAST CHINA SEA
TROPIC OF CANCER
MAGELLAN'S ARCHIPELAGO
LADRONES IS.
PHILIPPINE ISLANDS
LUZON I.
MANILA
MINDORO
PANAY
NEGROS
SAMAR
LEYTE
MINDANAO
PALAWAN
Sulu Sea
SOUTH CHINA SEA
CAROLINE IS.
PELEW IS.
PACIFIC OCEAN
ARCTIC CIRCLE
C. S. PETERS & SON ENGRS. BOSTON
10
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140

pare the climate of the southern part with that of the northern part? How does the great mountain mass affect the climate of the northern plain? What effect has it on the southern peninsulas? What sections are open to the cold north winds? What to the cool northeast winds? What to the warm south winds? The greatest rainfall is on the eastern coastal plains; why? What kind of a climate would you expect to find on the high plateaus?

Trace the sections in the product map and make a list of the products in each. What are the important animal products? The mineralproducts?

Asia contains some of the highest, dreariest, and most barren land in the world. It also contains vast tracts of lowland, some of it being the coldest, most bleak, and barren of any lowland in the world.

The world ridge reaches its highest elevation in the great highland mass of central Asia. The Pamir Plateau, the "Roof of the World," is sixteen thousand feet above sea-level, with many peaks rising much higher. From this plateau the mountains stretch eastward to inclose great plateaus and descend to the coastal plain. Mountain chains extend westward from the Pamir to inclose the lower plateaus, and gradually descend to the Mediterranean and to the highlands of Africa.

HERD OF REINDEER, NORTHERN SIBERIA

A STREET IN IRBIT

A TCHUTCHEE GIRL

A REINDEER RIDER.

PLOWING IN SOUTHERN SIBERIA

A TCHUTCHEE TENT.

SIBERIA.

The high mountains are snow-topped, and many of them have magnificent glaciers which are the source of numerous rivers. All of these rivers are rapidly building out the coast, some of them forming deltas of great extent.

The Himalaya Mountains are the highest and the youngest in the world. They have over fifty peaks that are above 23,000 feet high. Their southern slope is so precipitous that it is almost impassable for man or beast. Locate Mt. Everest, the highest peak. The greater part of the plateau region is cold, dry, and barren, and covered with the mountain waste which has been carried down the inner slopes by the streams. Many of these streams dry up and disappear. There are many salt lakes and salt beds on all of the plateaus. The only sections inhabitable and the only land fit for cultivation lie in the valleys of the mountain streams. Few people can live at such a high altitude.

OLIVE GROVE, SYRIA.

OLIVE PRESS

ANGORA GOATS.

The rivers of the Siberian Plain are navigable for the fur-traders, hunters, and fishermen for long distances during the summer months. The Amur River after leaving the Mongolian Plateau flows through forests and a rich grass and grain region—the lower part of its basin being the richest wheat region of Asia.

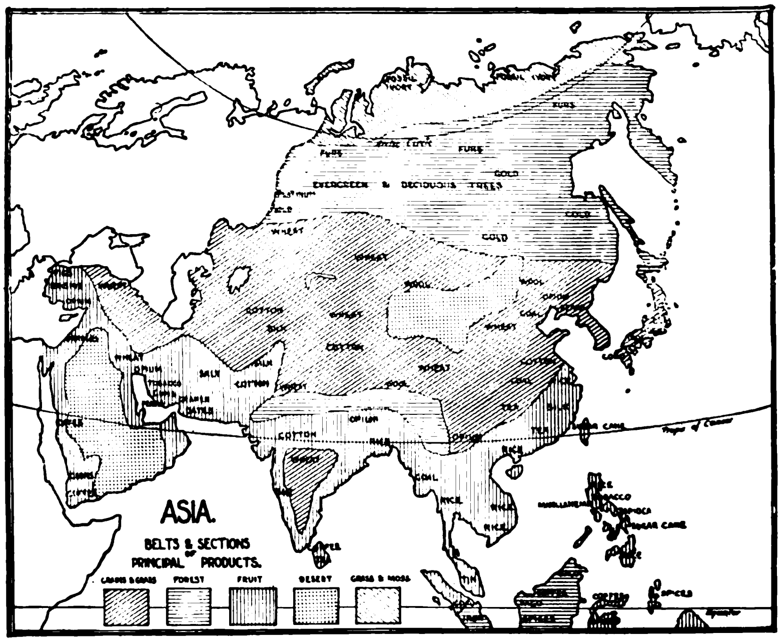
The Hoang Ho, Yellow River, or "China's Sorrow" is rapid, shallow, and hardly navigable. This river descends so rapidly that it carries quantities of yellow soil which it has taken up in its descent. This soil fills up the channel as the river nears the sea, and builds its banks higher than the surrounding plain. At flood time the banks overflow, covering the flood-plains and causing a great loss of life and property.

The Yangtse River has cut deep canyons in its course, and is navigable for large vessels for over a thousand miles.

A TEA PLANTATION.

Chinese rivers are crowded with junks and small boats upon which vast numbers of people live, who never have any other dwelling place.

The Ganges has its source in an enormous glacier; it receives many tributaries and unites with the Brahmaputra to form the largest delta in the world. It is navigable to the highlands and is one of the most used waterways in the world. A great system of canals is connected with the Ganges which serve for both irrigation and transportation.

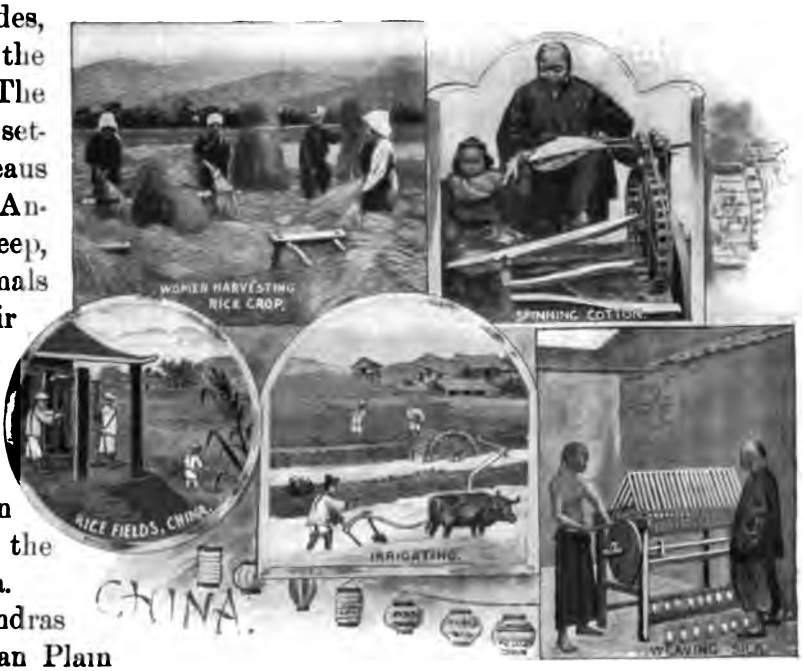


The great mountain mass causes a marked difference between the climate of the north and that of the south, by preventing the interchange of the cold and warm winds. The Siberian Plain is the coldest section in the world, though the crops mature quickly under the hot sun of the long summer days. The southern peninsulas are very warm, and tropical vegetation prevails in the lowland, while temperate vegetation prevails in the uplands. Asia has a generally dry climate, because of the high mountains on the seaward sides and because of the great land masses which absorb all moisture that passes over them.

All the belts of vegetation are found on the mountain sides, though the tops of the mountains are barren. The people of the scattered settlements of the plateaus are engaged in raising Angora goats, camels, sheep, and yaks. These animals serve as food; their hair and wool are valuable exports. The yak and the camel are also used for transportation. Fine Arabian horses are reared in the western parts of Asia.

Excepting the Tundras and Steppes, the Siberian Plain is covered with forests, interspersed, in the southern part, with meadows and grain fields.

Farming is the principal occupation of the plains and uplands of Asia. Silk culture is an old and important industry, China producing more raw silk than any other country in the world. Tea, opium, cotton, rice, sugar, and tropical fruits are the chief products in the warmer, and grains and temperate fruits in the temperate, regions. More tea is produced in China than in all other countries of the world. Rice is the principal food for millions of people of Asia. Camphor and lacquer trees and the bamboo are peculiar to southeastern Asia and Japan. Coffee is a valuable product of the southwestern part and of the island of Ceylon.



There is great mineral wealth in Asia, but only the mines of Japan are intelligently worked. Manufacturing engages the Japanese, some of the Chinese, and the people of India. Little modern machinery is used outside of Japan. Fine silk and cotton fabrics, carpets, and shawls are woven on hand looms in many localities.

There is a lively trade between different parts of Asia. As there are few good roads the products are transported across the continent by means of caravans of camels. Yaks and donkeys are used for carrying in the high mountain passes; the reindeer in the North; elephants in the southern part, and horses on the eastern plains and in the northwestern part. India has several lines of railway; Japan and China have a number of railroads; others are in construction. The White Race, with foreign capital, have constructed the railroads of China.

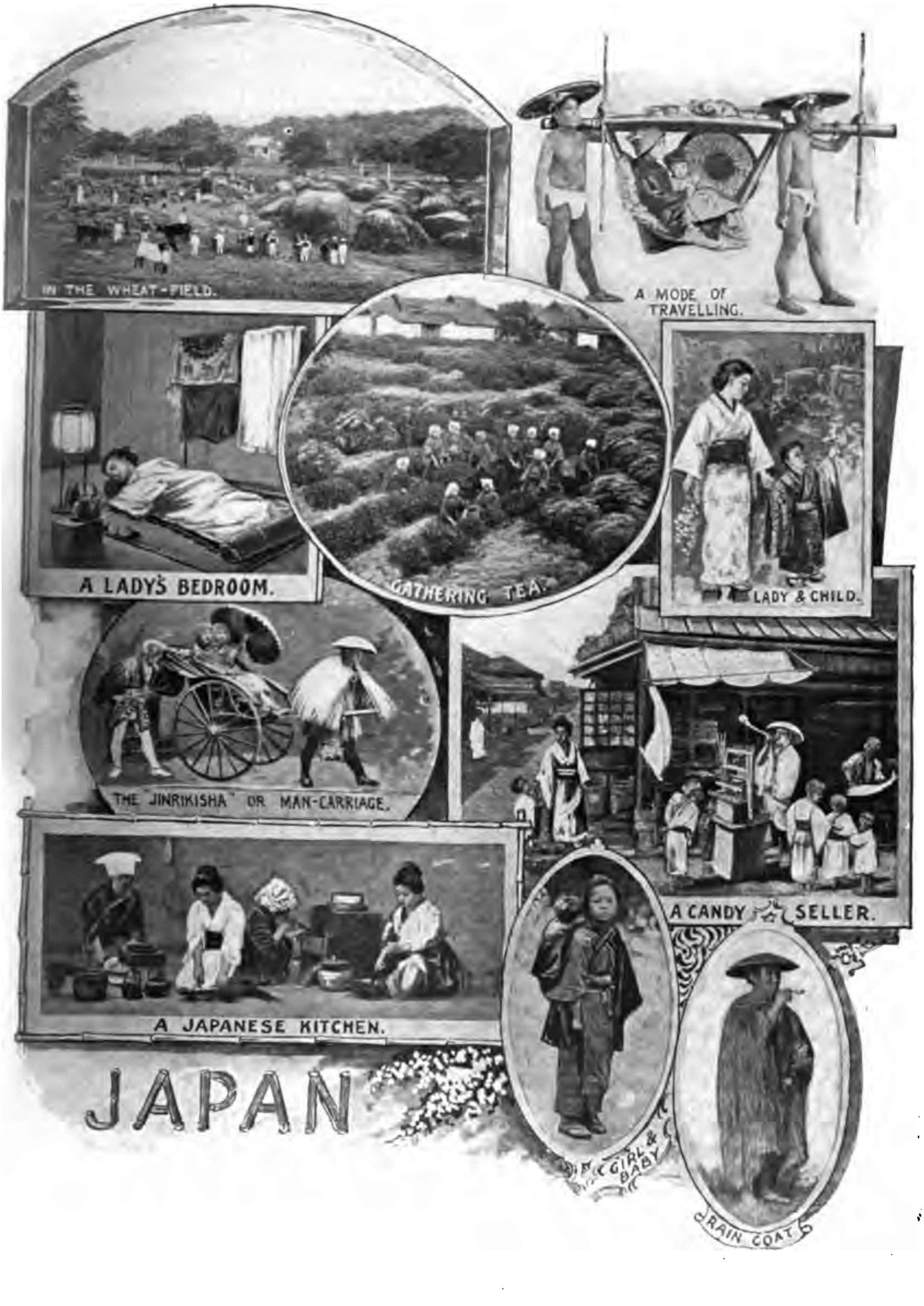
The highlands, the northern plains, and the entire western part of Asia are thinly settled, having only a few small trade centers; but the eastern and southern parts are more thickly settled than any other parts of the world. The people of northern Siberia, Turkey, China, and Japan belong to the Yellow Race; the others are Whites. The Japanese are the most progressive of any nation in Asia. The people of Asia are the oldest in civilization of any in the world; but, as a rule, they are backward and opposed to progress. Many of them live as their ancestors lived two thousand years ago.

A MONGOLIAN VILLAGE
MONGOLIANS
RIVER HOMES
A STREET IN PEKIN.
CAMPHOR TREE.
A CHINESE ROOM.

All of the religions of Asia, excepting the Mohammedan, are much older than the Christian religion. Find out what you can about the religion of the people in the different parts of Asia. Also find out what the prevailing government is in the countries of Asia. Name and point out the countries of Asia. Which are the three largest? Of these Siberia is a Russian possession; India is governed by the British. Which country lies almost wholly in the plains? Which countries lie in the plateau regions? Which are partially in the highlands and partially in the plains.

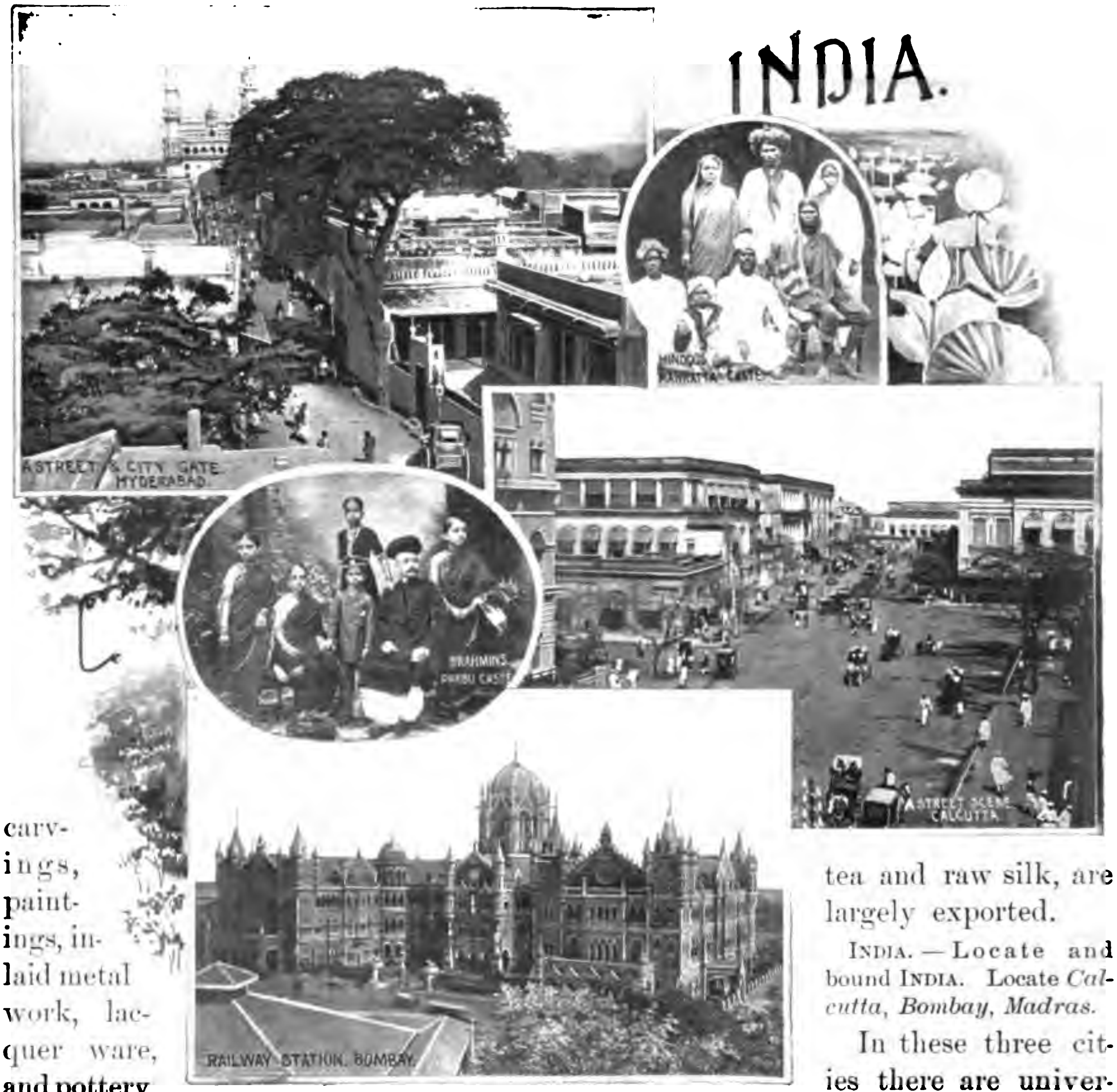
JAPAN.—Locate **JAPAN** and tell its capital. Locate *Nagasaki*, *Yokohama*.

Next to China, Japan produces more silk than any other country in the world. The Japanese are skilled in


JAPAN

IN THE WHEAT-FIELD.
A MODE OF TRAVELLING.
A LADY'S BEDROOM.
GATHERING TEA.
LADY & CHILD.
THE "JINRIKISHA" OR MAN-CARRIAGE.
A CANDY SELLER.
A JAPANESE KITCHEN.
GIRL & BABY
RAIN COAT

farming, in manufacturing, and in art of all kinds. They are noted for their artistic handiwork in embroideries, silks, carvings, paintings, inlaid metal work, lacquer ware, and pottery.



Chinese Empire.—Locate and bound the **Chinese Empire.** Locate its capital, Pekin. *Pekin* is an important trade center. Its buildings are low, its streets narrow, filthy, and badly drained. Locate *Canton*, *Tientsin*, *Shanghai*. Find out all you can about China and the Chinese.

The Chinese are skilled in the carving of ivory, in the fineness and art of their embroideries, and in the making of porcelain. These manufactured articles, with tea and raw silk, are largely exported.

India. — Locate and bound **India.** Locate *Calcutta*, *Bombay*, *Madras.*

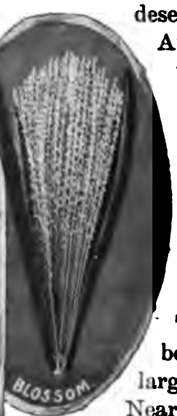
In these three cities there are universities, colleges, and manual-training schools, and many manufacturing industries.

Locate *Smyrna*, *Damascus*. These are trade centers where the caravans from the east exchange their merchandise for the products of the European workshops.

AFRICA.

Note.—Study the pictures of this grand division. Try to get other pictures representing the manners and customs of the different people of Africa.

Trace all coast-lines, all land forms, and rivers, and locate all places mentioned.



Find Africa on the globe, on the maps, and in the world pictures. Point to it and tell its direction from us. Tell its direction from each of the other grand divisions. Tell how you would go there. What separates Africa from Europe? By what is it connected with, and by what separated from, Asia? What large bodies of water bound Africa? Trace the coast-line. What capes project from the boundary? Which ones seem to give Africa its shape? What large island lies southeast of Africa? What channel separates this island from the mainland? What two groups of islands northwest of Africa? To whom does each belong?

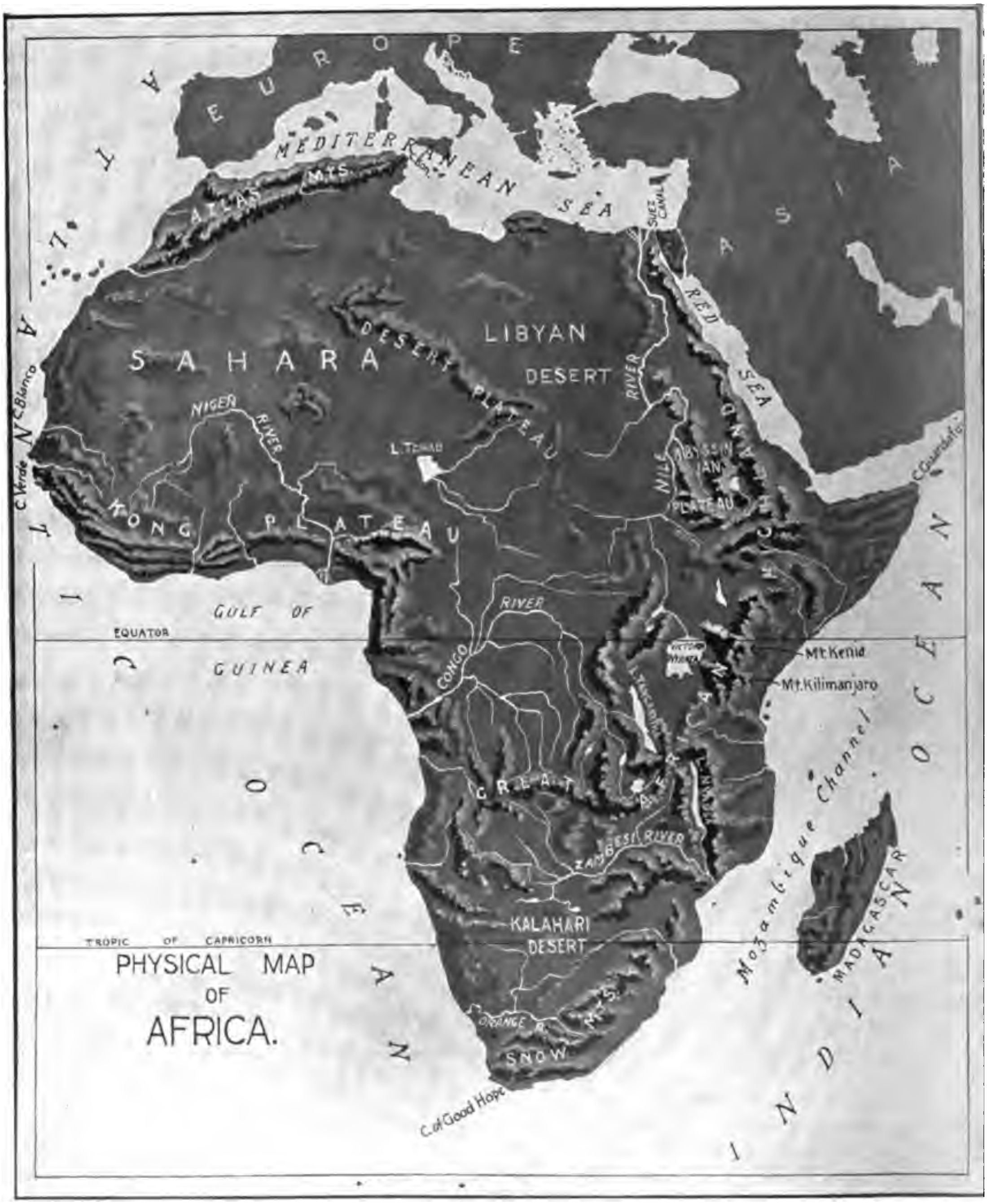
Trace the shape of Africa in the air. Sketch it quickly on the blackboard and locate the principal projections and indentations. Trace the Great African Highland. What plateau and what two mountain peaks in this highland? Trace and describe the Zambesi, Congo, and Nile rivers. How many cataracts can you find in the course of the Nile in its passage through the highlands? What falls are formed in the Zambesi's course? Trace and describe the Niger. Through what plateau does it cut its way to the sea? Trace the Orange River and tell in what mountains it rises. What desert lies between the Zambesi and Orange River basins? What lakes are found in this region? What do they tell us of the soil and climate of this region? Locate the Sahara. What do you notice in regard to rivers, lakes, and towns in this desert? Locate the lake region of Africa. Which lakes belong to the Nile Basin? Which to the Congo? Which to the Zambesi? Locate Lake Tchad. What is there peculiar about this lake? Trace the Atlas Mountains. Trace carefully the boundary of each large river basin.

Nearly two-fifths of Africa is a desert. What do you think is the principal cause of a desert?

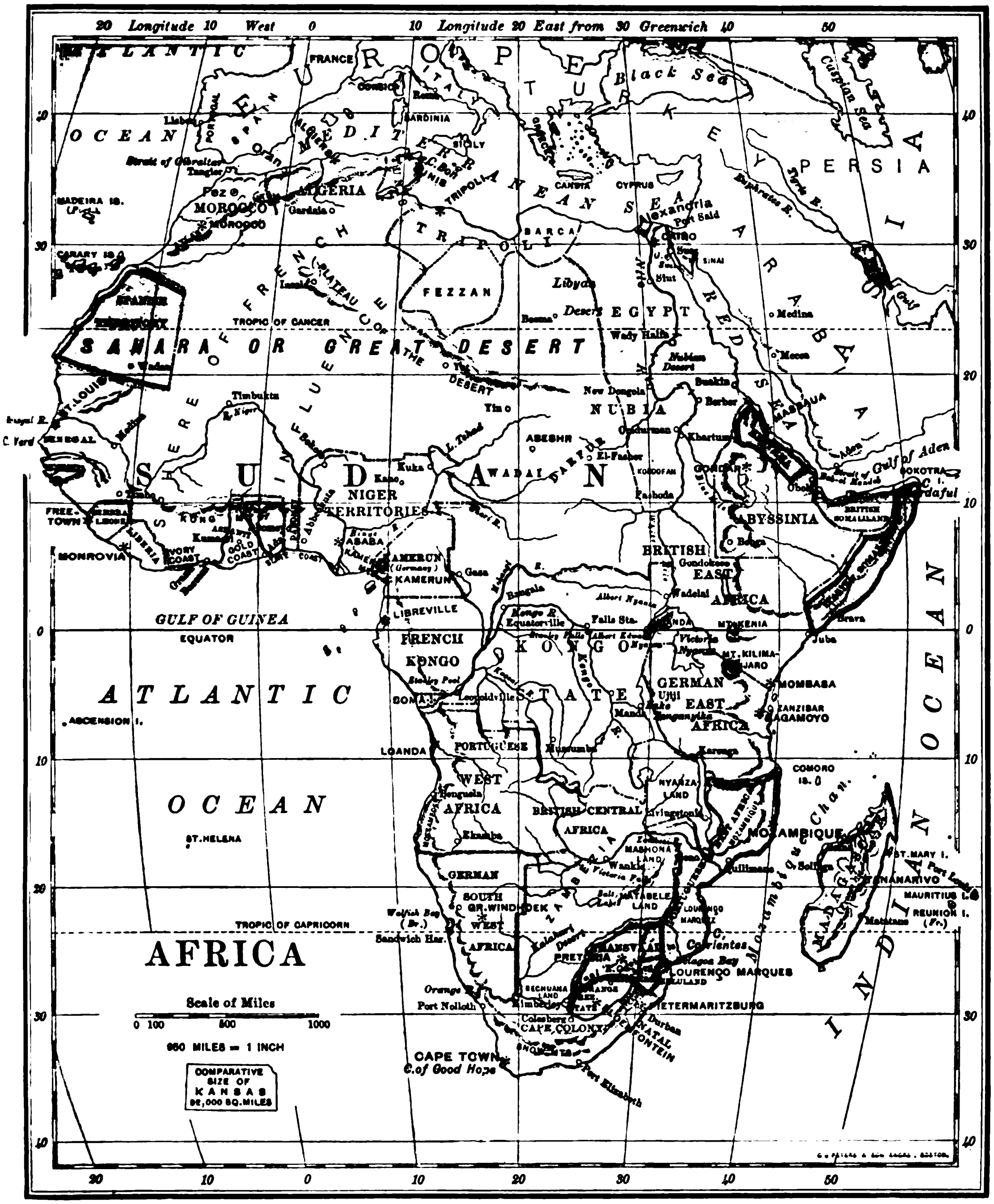
In what belts of climate does Africa lie? In which belt does the greater part lie? How must the climate of the interior be affected by the narrow coastal plains and by the mountain wall on the border of the plateau?

Locate the different product sections of Africa and tell what products are grown in each. Which part corresponds to the Selvas of South America? Compare the position of each section with the position of the same product section in the other grand divisions. What products do you find in Africa that grow in other grand divisions? What other grand divisions have the same or similar products?

Which parts of Africa seem to be most thickly settled? Can you think of any reason for this? What sections will never be thickly settled? What animals belong to Africa? (Page 42.)



PHYSICAL MAP OF AFRICA.


20 Longitude 10 West 0 10 Longitude 20 East from 30 Greenwich 40 50
ATLANTIC OCEAN
EUROPE
TURKEY
FRANCE
CORSICA
Rome
ITALY
SARDINIA
SICILY
Lisbon
PORTUGAL
SPAIN
Black Sea
Caspian Sea
GREECE
CANDIA
CYPRUS
MEDITERRANEAN SEA
Strait of Gibraltar
Tangier
Oran
Algiers
C. Bon
TUNIS
TRIPOLI
ALGERIA
Fez
MOROCCO
Gardaia
MADEIRA IS.
CANARY IS.
PERSIA
ASIA
ARABIA
Euphrates R.
Tigris R.
Gulf
Alexandria
Port Said
CAIRO
Suez
SINAI
Siut
Nile R.
RED SEA
Medina
Mecca
BARCA
TRIPOLI
FEZZAN
Libyan Desert
EGYPT
Bosma
Wady Halfa
Nubian Desert
FRENCH SAHARA
PLATEAU OF THE DESERT
SPANISH
TROPIC OF CANCER
SAHARA OR GREAT DESERT
Wadan
In Salah
ST. LOUIS
Senegal R.
C. Verd
SENEGAL
Timbuktu
R. Niger
Tibu
SUDAN
L. Chad
New Dongola
Suakin
Berber
NUBIA
Omdurman
Khartum
MASSAUA
ABESHR
El-Fasher
WADAI
DARFUR
KORDOFAN
Fashoda
GONDAR
Aden
Gulf of Aden
Obock
Strait of Bab-el-Mandeb
SOKOTRA I.
C. Guardaful
BRITISH SOMALILAND
ABYSSINIA
Kuka
Kano
NIGER TERRITORIES
FREE-TOWN
SIERRA LEONE
KONG
LIBERIA
MONROVIA
IVORY COAST
GOLD COAST
Kumassi
Abomey
Lagos
Benue R.
ASABA
KAMERUN (Germany)
KAMERUN
Gasa
BRITISH EAST AFRICA
Bangala
Albert Nyanza
Kongo R.
Equatorville
Falls Sta.
Stanley Falls
Albert Edward
UGANDA
Wadelai
MT. KENIA
Victoria Nyanza
Brava
Juba
LIBREVILLE
GULF OF GUINEA
EQUATOR
FRENCH KONGO
KONGO STATE
MT. KILIMA-NJARO
MOMBASA
Stanley Pool
BOMA
Leopoldville
Ujiji
GERMAN EAST AFRICA
L. Tanganyika
ZANZIBAR
BAGAMOYO
ATLANTIC
ASCENSION I.
LOANDA
PORTUGUESE WEST AFRICA
Benguela
Kasai R.
Karonga
COMORO IS.
NYASSA LAND
Livingstonia
OCEAN
ST. HELENA
BRITISH CENTRAL AFRICA
Zambezi R.
MASHONA LAND
Wankie
Victoria Falls
MOZAMBIQUE
Mozambique Chan.
Quilimane
Sofala
MADAGASCAR
ST. MARY I.
ANTANANARIVO
Port Louis
MAURITIUS I.
REUNION I. (Fr.)
Matatane
GERMAN SOUTH WEST AFRICA
Walfish Bay (Br.)
WINDHOEK
Sandwich Har.
Kalahari Desert
MATABELE LAND
LOURENCO MARQUES
Corrientes
Delagoa Bay
TROPIC OF CAPRICORN
PRETORIA
TRANSVAAL
ZULULAND
Orange R.
Port Nolloth
BECHUANA LAND
ORANGE FREE STATE
Kimberley
PIETERMARITZBURG
Durban
NATAL
BLOEMFONTEIN
Colesberg
CAPE COLONY
CAPE TOWN
C. of Good Hope
Port Elizabeth
INDIAN OCEAN
AFRICA
Scale of Miles
0 100 500 1000
660 MILES = 1 INCH
COMPARATIVE SIZE OF KANSAS 82,000 SQ. MILES
40 30 20 10 0 10 20 30 40
20 10 0 10 20 30 40 50

The surface of Africa has neither the high mountain walls nor the great extent of lowlands which mark the surface of the other grand divisions. Nearly the entire grand division is a plateau, bordered and crossed by mountain ranges, while narrow coastal plains border on the sea. The Primary Highlands of Africa reach their highest elevation in the Abyssinian Plateau. This plateau reaches a height of only about three thousand feet above sea level. From this plateau the highlands stretch southward, extending one arm to the southern extremity, where it is known as the Snow Mountains, while the other arm extends westward across the plateau and is known as the Great African Highland. What river basins and what desert are inclosed by these two branches or arms? The highest points of elevation and the only snow-clad peaks in Africa are Kenia and Kilimanjaro. From the Abyssinian Plateau a low mountain spur stretches northward and forms the water-parting between the Red Sea and the Nile Valley.

A SANDY DESERT AND OASIS.

In the hot, dry plains of the desert objects are often reflected as in water. Such an illusion is called a *mirage*.

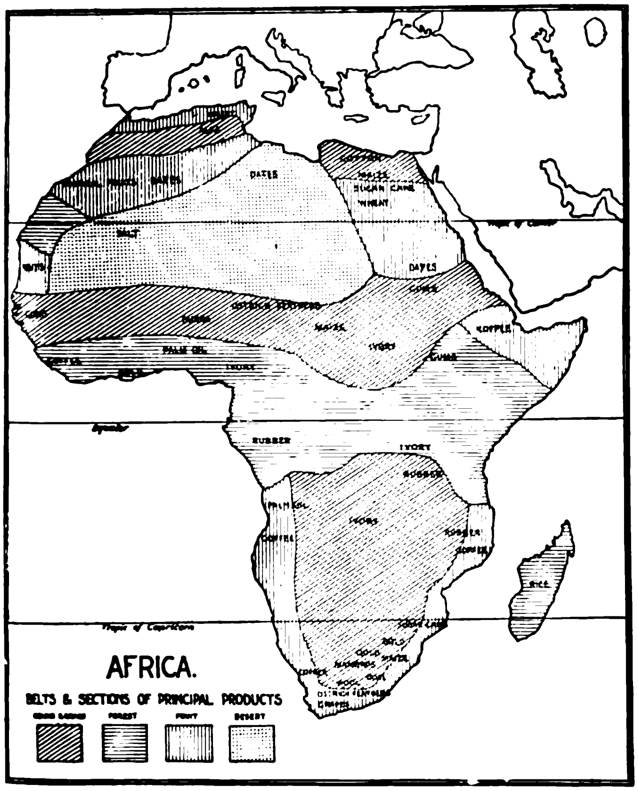
OVERTAKEN BY A SANDSTORM IN THE DESERT.

Near the equator the African Highland sends a long arm northwestward, which forms the water-parting between the Nile and Congo basins and separates the Libyan Desert from the Sahara. The ranges on the west coast are much lower than those on the east, and there are many wide gaps in them, the widest being between the Kong and the Atlas mountains.

The Sahara is a vast, hot, dry, and sandy desert interspersed here and there with small, fertile spots, called *oases*. Rain never falls on the desert, but caravans are sometimes overtaken by terrific sandstorms — called *simoons* — which cause much loss of life among men and camels.

African rivers have many rapids and waterfalls where they descend from the plateau to the coastal plains. On the plateau they often flow slowly, spreading out into shallow streams of great width.

The Congo River, next to the Amazon, carries the greatest volume of water of any river in the world. At its mouth it is six miles wide and of great depth. It is navigable for large boats to the highlands, a distance of about 150 miles. It is also navigable for flat-bottomed boats for a great distance on the plateau. It cuts its way from the highlands through a magnificent gorge over forty miles wide.



MANGROVE THICKET, WEST COAST OF AFRICA.

The Nile, including the White Nile, is about 4000 miles in length. Its flood-plain includes nearly the whole of Egypt. About one hundred miles above its mouth it begins to form one of the richest and finest deltas in the world. There are so many cataracts in the Nile below Khartum that its navigation is interrupted; but above Khartum it is navigable for river steamers for nearly a thousand miles. Above Khartum the Nile flows through forests and grass lands; but below this place it flows through a desert region which is made fertile only through the periodical rains that cause the river to overflow the whole plain. Water from this river is stored in reservoirs to serve for irrigation. The Nile differs from all other rivers in having no tributaries for nearly two thousand miles above its mouth.

The Niger River is more important for navigation than any other African river. Its tributary, the Binue, is navigable into the very heart of the Sudan. The Niger forms one of the finest deltas in the world. This delta is covered with dense mangrove thickets. (Page 211.)

EGYPT.

The Victoria Falls of the Zambesi are, next to Niagara, the most magnificent falls in the world. The Orange River is of little use for navigation.

The great equatorial lake system of Africa is unequaled except by the Great Lakes of North America. Next to Lake Superior, Victoria is the largest fresh-water lake in the world.

The climate of Africa, like that of most plateaus, is generally dry. The great central part lies in the region of equatorial rains. This causes a very wide belt of tropical forests to grow on each side of the equator. These forests are more dense where they stretch across the coastal plains. The forests gradually merge into the grass prairies of the Zambesi and Sudan regions. The seaward slopes of the mountains and plateau receive plenty of rainfall during the year.

The prevailing winds of the Sahara are easterly land winds from which all moisture has been taken. The oases in the desert are well-watered and covered with grass and date-palms. (Page 207.) Africa yields the products of the tropical and temperate regions.

The southern part of Africa is noted

for its great mineral wealth, the diamond mines of *Kimberley* and the gold-fields of *Pretoria* and *Johannesburg* being among the richest and most noted in the world.

Farming, for the needs of life, is the principal occupation of Africa. Angora goats, sheep, cattle, and ostriches are extensively raised in the uplands of the southern part. The Mediterranean States grow the same products as southern Europe. The most valuable products of the Nile valley are cotton, sugar-cane, and Indian corn.

WOMAN WOOD CARRIER

COURT HOUSE, TANGIERS, MOROCCO.

WATER CARRIER

A lively interior trade is carried on from north to south, and across the desert, by means of caravans. The Arab merchants of the north exchange small wares, trinkets, etc., for ivory, gold-dust, ostrich-plumes, salt, dates, and slaves from the interior regions. Europeans have constructed several railroads in Egypt, also in the western coastal plain and in the southern part of Africa. The most important are those of South Africa. Here good roads have been constructed, and a few of the towns and cities have electric cars, electric lights, paved streets, water supply, and sewerage systems.

MAN

HOTTENTOT VILLAGE

The people of Africa belong to many tribes, which represent at least three races. These tribes cause great differences in language, religion, and civilization to exist. The central and larger part of Africa is the home of a great number of Negro tribes, most of whom are half savage.

WOMAN

Africa is largely under the control of the different nations of Europe. From the colors of the map tell which parts are under British control? Which under the French? Which under the Germans? What other nations control parts of Africa?

Egypt.—Locate **Egypt**. Tell in what surface and climate sections it lies. Egypt has monuments of the oldest civilization of which we have any record. Find out what you can of the pyramids, sphinx, and obelisks of Egypt. Also find out what you can of the papyrus and lotus, and of their use in ancient Egyptian art. Locate *Alexandria*, the chief seaport and the great center of foreign trade. Locate the capital, *Cairo*. Many tourists visit this city to see the wonders of ancient Egypt.

Khartum is the great trade center of Egypt for the river and caravan trade.

Port Said owes its importance solely to the fact that it is at the northern terminus of the Suez Canal.

Central Africa.—Most of **Central Africa** has been explored and is claimed by different European nations. Much of it has an unhealthful climate, poor soil, and poor river navigation; hence it develops slowly and yields little to the commerce of the world. The *Kongo State*, under the King of Belgium, has been opened to the trade of all nations. Carriage-ways and railroads have been constructed in a few localities. Three-fourths of all the ivory in the world comes from this part of Africa. The principal trade centers of Central Africa are *Boma* and *Leopoldville*. Locate them.

BOER HOMESTEAD.

South Africa.—The greater part of **South Africa** belongs to Great Britain. Transvaal and the Orange Free State were settled by Boers, or Dutch farmers. They have recently been annexed to British Territory. Find out what occurred to cause the British to annex them.

MARKET SQUARE, JOHANNESBURG

The natives of South Africa work for the colonists as laborers and servants. Many of them have adopted the manners and customs of the Whites.

From this section Angora hair, ostrich feathers, and skins are exported, but by far the most important exports are diamonds, wool, and gold.

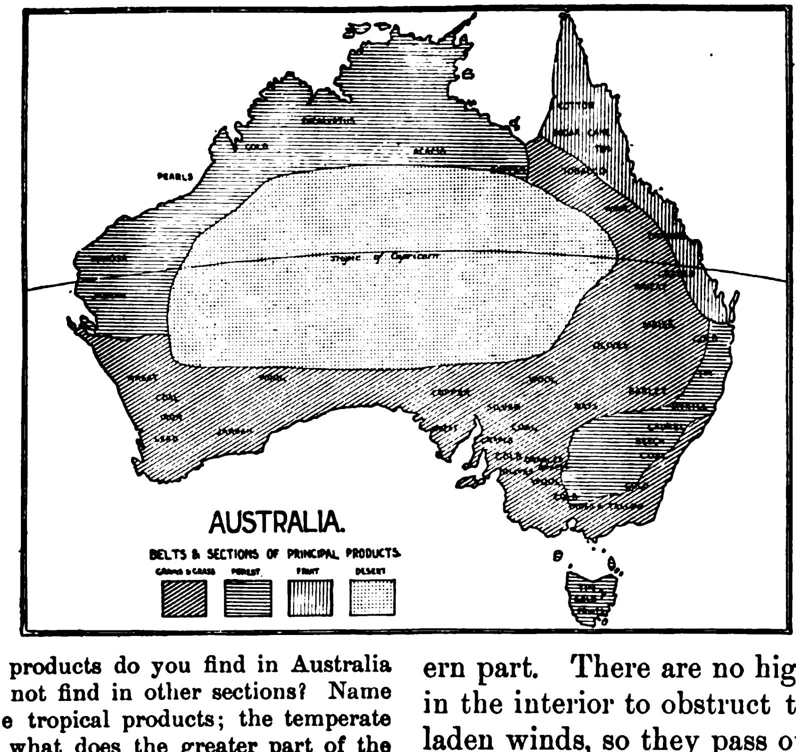
Locate *Cape Town*, the largest city in South Africa. It has a fine harbor and is connected with the interior towns by railroads. Locate *Port Elizabeth*, the second city in size and the chief seaport of this section. Locate Pretoria and Johannesburg, and tell for what they are noted. (Page 212.)

THE FEDERATION OF AUSTRALIA, AND THE PACIFIC ISLANDS.

AN AUSTRALIAN SHEEP FARM.

Find Australia on the globe and maps and in the world pictures. Point to it and tell its direction from us. Tell how you would go there. Tell the direction of Australia from each of the other grand divisions. Trace the coast, naming the projections and indentations as you trace. What island lies southeast of the mainland? What reef lies northeast of it?

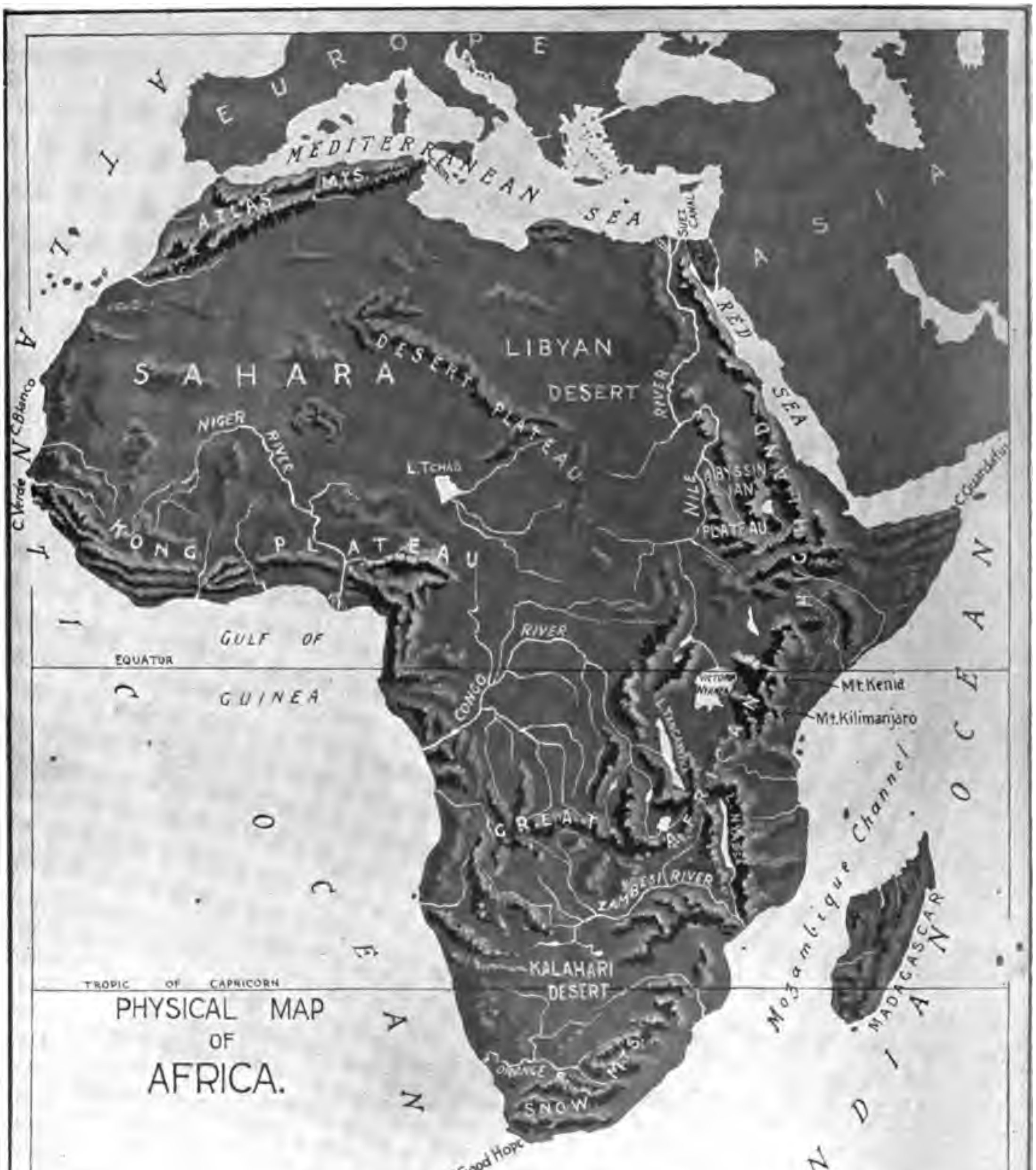
Describe the only river system in Australia. Trace the inland rivers. Trace the highlands of Australia, and tell where they are located. What name is given to the range in the southeastern part? Locate the Great Victoria Desert.



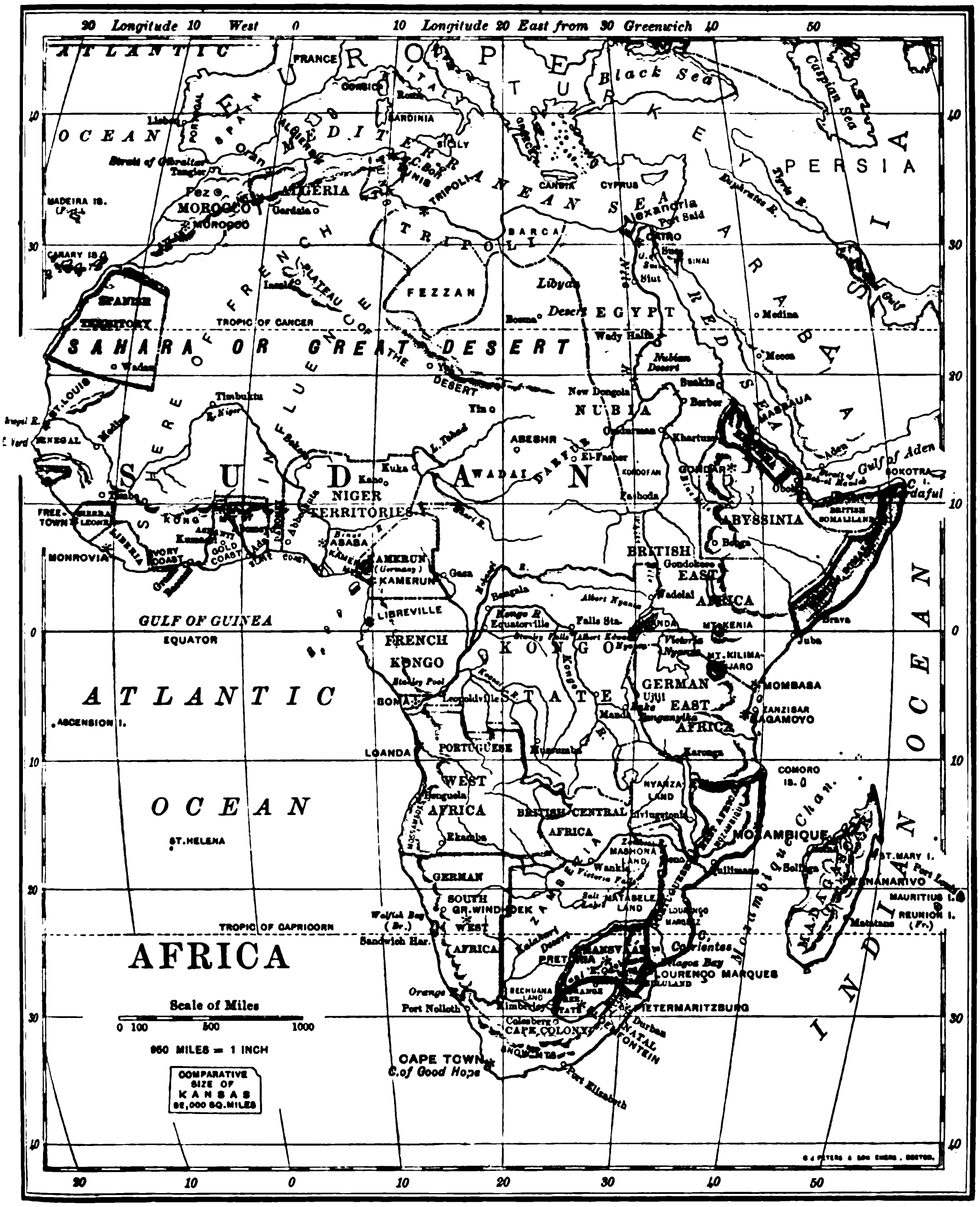
In what climate belts does Australia lie? How do the seasons in Australia differ from our seasons? Locate the product sections and tell what products are in each belt. Compare these sections and their products with like sections in other grand divisions. What products do you find in Australia which you do not find in other sections? Name and locate the tropical products; the temperate products. Of what does the greater part of the surface of the interior consist? From the number of cities tell what sections are most thickly settled. Can you think of any reason for this?

The six British colonies of Australia united January 1, 1901, under a general government to form the *Federation*, or *Commonwealth, of Australia.* Name and locate each State. Which is the largest? Which the smallest? Which do you think are of the most importance? Why? Locate *Melbourne*, *Sydney*, *Brisbane*, *Adelaide*, *Perth*, *Hobart.*

The surface of Australia consists of a plateau bordered by low mountains with narrow coastal plains. The mountains are highest along the eastern coast, reaching their highest elevation in the southeastern part. There are no high mountains in the interior to obstruct the moisture-laden winds, so they pass over the land



PHYSICAL MAP OF AFRICA.


20 Longitude 10 West 0 10 Longitude 20 East from 30 Greenwich 40 50
ATLANTIC
OCEAN
EUROPE
FRANCE
CORSICA
Rome
SARDINIA
SICILY
ITALY
TURKEY
Black Sea
Caspian Sea
PERSIA
Lisbon
PORTUGAL
SPAIN
Strait of Gibraltar
Tangier
MADEIRA IS.
Fez
MOROCCO
Oran
Algiers
ALGERIA
Gardaia
C. Bon
TUNIS
TRIPOLI
MEDITERRANEAN SEA
CANDIA
CYPRUS
Alexandria
Port Said
CAIRO
Suez
SINAI
Euphrates R.
Tigris R.
ARABIA
ASIA
CANARY IS.
FRENCH
BARCA
TRIPOLI
FEZZAN
Libyan Desert
EGYPT
RED SEA
Medina
Insalah
PLATEAU OF THE DESERT
SPANISH TERRITORY
TROPIC OF CANCER
SAHARA OR GREAT DESERT
Bosma
Wady Halfa
Mecca
Nubian Desert
Suakin
Berber
MASSAUA
Adar
Timbuktu
New Dongola
NUBIA
ST. LOUIS
Niger
SENEGAL
Yilo
ABESHR
Omdurman
Khartum
L. Tchad
WADAI
DARFUR
El-Fasher
KORDOFAN
Kuka
Kano
SUDAN
NIGER TERRITORIES
Fashoda
GONDAR
Gulf of Aden
SOKOTRA
C. Guardaful
Aden
BRITISH SOMALILAND
ABYSSINIA
FREE-TOWN
SIERRA LEONE
LIBERIA
MONROVIA
IVORY COAST
GOLD COAST
ASHANTI
KONG
Kumassi
DAHOMEY
ABASA
KAMERUN (Germany)
Gaza
BRITISH EAST AFRICA
Gondokoro
Wadelai
Albert Nyanza
GULF OF GUINEA
LIBREVILLE
EQUATOR
FRENCH KONGO
Falls Sta.
Equatorville
Stanley Falls
Albert Edward
KONGO STATE
MT. KENIA
Juba
Brava
Victoria Nyanza
MT. KILIMA-NJARO
MOMBASA
ZANZIBAR
BAGAMOYO
Stanley Pool
BOMA
Leopoldville
GERMAN EAST AFRICA
Ujiji
Lake Tanganyika
ATLANTIC
ASCENSION I.
OCEAN
INDIAN OCEAN
LOANDA
PORTUGUESE WEST AFRICA
Benguela
Karonga
COMORO IS.
NYANZA-LAND
Livingstonia
BRITISH CENTRAL AFRICA
MOZAMBIQUE
Mozambique Chan.
ST. HELENA
ZAMBESI R.
MASHONA LAND
Victoria Falls
ST. MARY I.
Port Louis
ANTANANARIVO
MAURITIUS I.
REUNION I. (Fr.)
MADAGASCAR
GERMAN SOUTH WEST AFRICA
GR. WINDHOEK
Walfish Bay (Br.)
Sandwich Har.
MATABELE LAND
TROPIC OF CAPRICORN
Kalahari Desert
TRANSVAAL
PRETORIA
Lourenço Marques
Delagoa Bay
LOURENCO MARQUES
AFRICA
Scale of Miles
0 100 500 1000
950 MILES = 1 INCH
Orange R.
Port Nolloth
BECHUANA LAND
Kimberley
ORANGE FREE STATE
PIETERMARITZBURG
Durban
NATAL
Colesberg
CAPE COLONY
BLOEMFONTEIN
CAPE TOWN
C. of Good Hope
Port Elizabeth
COMPARATIVE SIZE OF KANSAS 82,000 SQ. MILES
10 20 30 40 0 10 20 30 40
G. J. PETERS & SON ENGRS., BOSTON.

surface, leaving it dry and unfit for cultivation.

The plant and animal life of Australia differs from that of other grand divisions. Many plants grow here which grow nowhere else in the world. Among the native plants there are no cereals and few fruits. Europeans have introduced them with success. The kangaroo is found in Australia alone.

Sheep- and cattle-raising are the chief occupations. About one-fourth of all the wool in the world is produced in Australia. Australia is noted for its gold and other mineral wealth.

STREET IN SYDNEY.

NATIVES & HOME IN THE FIJI ISLANDS.

The people of Australia consist of British colonists, who are united in language, laws, and ideas of progress. The *Federation of Australia* will doubtless become a leading power in the world. The original Australians are fast becoming extinct.

Victoria is the leading State. *Melbourne*, the capital, is the center of the gold-mining industries.

New South Wales is next in importance. Mining and grazing are the chief occupations.

CIRCULAR QUAY, SYDNEY.

Sydney, the capital, has a fine harbor and many manufacturing industries.

Note.—Ask your teacher for a game in which each pupil asks the route from some of the ports in Australia to other cities of the world.

PACIFIC ISLANDS.

Locate **New Zealand** and tell to whom it belongs. By what sea is it separated from Australia? Name the islands that comprise New Zealand. Describe the surface. Name and locate the capital. Locate *Dunedin*, an important seaport.

In New Zealand there are many high mountains which are the source of numerous glaciers. There are fine geysers in North Island. There is great forest and mineral wealth in these islands. Farming, mining, and grazing are the chief occupations.

Locate the **Sunda Islands**. Tell what islands comprise this group. Which are the largest islands of this group? To whom do any of them belong? They are of volcanic origin. They produce most of the spices of the world.

Sumatra is rich in minerals, especially in tin. **Borneo** is rich in diamonds. **Java** is noted for the production of coffee, sugar, and rice. **New Guinea** is, next to Greenland, the largest island in the world.

Make a list of the islands and island groups of the Pacific, and tell to whom each belongs. Name the bodies of water which separate the islands. Most of the Pacific islands are of volcanic origin, and there are many active volcanoes upon them.

Trace routes from America to different Pacific islands.

INTERRELATED READING.

Prepared by Euphrosyne Bown.

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SUPPLEMENT.

THE EARTH'S AREA AND POPULATION.

THE EARTH'S DIMENSIONS.

Equatorial diameter,	7,926		miles
Polar,	7,900		"
Equatorial circumference,	24,900		"
Earth's Surface,	194,000,000	square	"
Pacific Ocean,	71,000,000	"	"
Atlantic "	34,000,000	"	"
Indian "	28,000,000	"	"
Antarctic "	7,500,000	"	"
Arctic "	4,000,000	"	"
Total Ocean Surface,	144,500,000	"	"

	Area in Sq. Miles.	Population.
North America,	8,600,000	102,655,358
South America,	7,885,400	38,085,603
Western Hemisphere,	16,485,400	140,740,961
Europe,	4,022,234	365,436,581
Asia,	16,698,198	818,769,630
Eurasia,	20,720,432	1,184,206,211
Africa,	11,514,985	168,497,091
Australia,	510,874	5,683,968
Eastern Hemisphere,	32,746,291	1,358,387,270
South Polar Lands.	260,600	
Land Surface of the Earth,	49,492,291	1,499,128,251

NORTH AMERICA.

	Area in Sq. Miles.	Population.
Danish America,	87,426	81,443
Do. of Canada,	3,614,813	4,830,368
Newfoundland,	42,732	200,000
East Labrador,	120,005	4,211
British America,	3,777,550	5,034,579
French Is.,	91	5,983
United States,	3,668,167	76,295,220
Mexico,	751,584	12,578,861
Central America,	179,730	3,010,324
West Indies,	92,955	5,831,065

UNITED STATES. AREA AND POPULATION.

	Area in Sq. Miles.	Population, 1900.
Alabama,	52,250	1,828,697
Arkansas,	53,850	1,311,564
California,	158,360	1,485,053
Colorado,	103,925	539,700
Connecticut,	4,990	908,355
Delaware,	2,050	184,735
Florida,	56,680	528,542
Georgia,	59,475	2,216,331
Idaho,	84,800	161,772
Illinois,	56,650	4,821,550
Indiana,	36,350	2,516,462
Iowa,	56,025	2,231,853
Kansas,	82,080	1,470,495
Kentucky,	40,400	2,147,174
Louisiana,	48,720	1,381,625
Maine,	33,040	694,466
Maryland,	12,210	1,190,050
Massachusetts,	8,315	2,805,346
Michigan,	58,915	2,420,982
Minnesota,	83,365	1,751,394
Mississippi,	46,810	1,551,270
Missouri,	69,415	3,106,665
Montana,	146,080	243,329
Nebraska,	77,510	1,068,539
Nevada,	110,700	42,335
New Hampshire,	9,305	411,588
New Jersey,	7,815	1,883,669
New York,	49,170	7,268,012
N. Carolina,	52,250	1,893,810
N. Dakota,	70,795	319,146
Ohio,	41,060	4,157,545
Oregon,	96,030	413,536
Pennsylvania,	45,215	6,302,115
Rhode Island,	1,250	428,556
S. Carolina,	30,570	1,340,316
S. Dakota,	77,650	401,570
Tennessee,	42,050	2,020,616
Texas,	265,780	3,048,710
Utah,	84,970	276,749
Vermont,	9,565	343,641
Virginia,	42,450	1,854,184
Washington,	69,180	518,103
W. Virginia,	24,780	958,800
Wisconsin,	56,040	2,069,042
Wyoming,	97,890	92,531
Delaware, Raritan, and New York bays,	720	
Arizona Ter.,	113,020	122,931
Dist. of Col.,	70	278,718
Ind. Ter.,	31,400	391,960
New Mexico Ter.,	122,580	195,310
Oklahoma Ter.,	39,030	398,245
Part Gt. Lakes,	65,177	
United States,	3,090,777	76,295,220
Alaska,	577,390	63,441
Hawaiian Islands,	6,640	154,001
Porto Rico,	3,668	900,000
Philippines,	114,000	8,000,000
Guam,		10,000
Cuba, under the Protection of U. S.,	44,000	1,634,000
Total Foreign Possessions,	745,698	10,761,442
Total United States and Possessions,	3,836,475	86,858,661

THE TWENTY LARGEST CITIES OF U. S.

	1900.
New York,	3,437,202
Chicago,	1,698,575
Philadelphia,	1,293,697
St. Louis,	575,238
Boston,	560,892
Baltimore,	508,957
Cleveland,	381,768
Buffalo,	352,219
San Francisco,	342,782
Cincinnati,	325,902
Pittsburg,	321,616
New Orleans,	287,104
Detroit,	285,704
Milwaukee,	285,315
Washington,	278,718
Newark.	246,070
Jersey City,	206,433
Louisville,	204,731
Minneapolis,	202,718
Providence,	175,597

POPULATION OF CITIES HAVING 25,000 INHABITANTS OR MORE IN THE UNITED STATES.

	1900.
Akron, Ohio,	42,938
Albany, N. Y.,	94,151
Allegheny, Pa.,	129,896
Allentown, Pa.,	35,416
Altoona, Pa.,	38,973
Atlanta, Ga.,	89,872
Atlantic City, N. J.,	27,838
Auburn, N. Y.,	30,345
Augusta, Ga.,	39,441
Baltimore, Md.,	508,957
Bay City, Mich.,	27,628
Bayonne, N. J.,	32,722
Binghamton, N. Y.,	39,647
Birmingham, Ala.,	38.415
Boston, Mass.,	560.892
Bridgeport, Conn.,	70,997
Brockton, Mass ,	40,063
Buffalo, N. Y.,	352.387
Butte, Mont.,	30,470
Cambridge. Mass.,	91,886
Camden, N. J.,	75,935
Canton. Ohio,	30,667
Cedar Rapids, Ia.,	25,656
Charleston, S. C.,	56,807
Chester, Pa.,	33,988
Chattanooga, Tenn.,	32,490
Chelsea, Mass.,	34,072
Chicago, Ill.,	1,698,575
Cincinnati, Ohio,	325,902
Cleveland, Ohio,	381,768
Columbus. Ohio,	125,560
Council Bluffs, Ia.,	25,802
Covington. Ky.,	42,938
Dallas. Tex.,	42,638
Davenport, Ia.,	35,254
Dayton, Ohio,	85,333
Denver, Col.,	133,859
Des Moines, Ia.,	62,139
Detroit, Mich.,	285,704
Dubuque, Ia.,	36,297
Duluth, Minn.,	52,969
Easton, Pa.,	25,238
East St. Louis, Ill.,	29,655
Elizabeth, N. J.,	52,130
Elmira, N. Y.,	35,672
Erie, Pa ,	52,733
Evansville, Ind.,	59,007
Fall River, Mass.,	104,863
Fitchburg, Mass.,	31,531
Fort Wayne, Ind.,	45,115
Fort Worth, Tex.,	26,688
Galveston, Tex.,	37,789
Gloucester, Mass.,	26,121
Grand Rapids, Mich.,	87,565
Harrisburg. Pa.,	50,167
Hartford, Conn.,	79,850
Haverhill, Mass.,	37,175
Hoboken, N. J.,	59,364
Holyoke, Mass.,	45,712
Houston, Tex.,	44 633
Indianapolis, Ind.,	169,164
Jackson, Mich.,	25,180
Jacksonville, Fla.,	28,429
Jersey City, N. J.,	206.433
Johnstown, Pa.,	35,936
Joliet, Ill.,	29,353
Kansas City, Kan.,	51,418
Kansas City, Mo.,	163,752
Knoxville, Tenn.,	32,637
La Crosse, Wis.,	28,895
Lancaster, Pa.,	41,459
Lawrence, Mass.,	62.559
Lexington. Ky.,	26,369
Lincoln, Neb ,	40,169
Little Rock, Ark.,	38,307
Los Angeles. Cal.,	102,479
Louisville, Ky.,	204,731
Lowell, Mass.,	94,969
Lynn, Mass..	68,513
Malden, Mass..	33,664
Manchester. N. H.,	56,987
McKeesport. Pa.,	34,227
Memphis, Tenn.,	102.320
Milwaukee. Wis.,	285,315
Minneapolis, Minn.,	202,718
Mobile, Ala.,	38,469
Montgomery, Ala.,	30,346
Nashville, Tenn.,	80,865
Newark, N. J.,	246,070
New Bedford. Mass.,	62,442
New Britain, Conn.,	25,998
Newcastle, Pa.,	28,339
New Haven, Conn.,	108,027
New Orleans, La.,	287,104
Newport, Ky.,	28,301
Newton, Mass.,	33,587
New York, N. Y.,	3,437,202
Norfolk, Va.,	46,624
Oakland, Cal.,	66,960
Omaha, Neb.,	102.555
Oshkosh, Wis.,	28.284
Passaic, N. J ,	27,777
Paterson, N. J.,	105,171
Pawtucket, R. I.,	39,231
Peoria, Ill.,	56,100
Philadelphia, Pa.,	1,293,697
Pittsburg, Pa.,	321.616
Portland, Me.,	50,145
Portland, Ore.,	90,426
Providence, R. I.,	175,597
Pueblo, Col.,	28,157
Quincy, Ill.,	36,252
Racine, Wis.,	29.102
Reading, Pa.,	78.961
Richmond, Va.,	85,050
Rochester, N. Y.,	162,608
Rockford, Ill.,	31,051
Sacramento, Cal.,	29,282
Saginaw, Mich.,	42,345
St. Joseph, Mo.,	102,978
St. Louis, Mo .	575,238
St. Paul, Minn.,	163,065
Salem, Mass.,	35,956
Salt Lake City, Utah,	53.531
San Antonio, Tex.,	53,321
San Francisco, Cal.,	342,782
Savannah, Ga.,	54,244
Schenectady, N. Y.,	31,682
Scranton, Pa.,	102.026
Seattle, Wash.,	80,671
Sioux City, Ia ,	33,111
Somerville, Mass.,	61,643
South Bend. Ind.,	35,999
South Omaha, Neb.,	26,001
Spokane Wash.,	36,848
Springfield, Ill.,	34.159
Springfield, Mass,	62,059
Springfield, Ohio,	38.253
Superior, Wis.,	31.091
Syracuse, N. Y.,	108,374
Tacoma, Wash.,	37,714
Taunton, Mass.,	31,036
Terre Haute, Ind.,	36,673
Toledo, Ohio,	131.822
Topeka, Kan.,	33.608
Trenton, N. J.,	73.307
Troy, N. Y.,	60.651
Utica, N. Y.,	56,383
Washington, D. C.,	278,718
Waterbury. Conn.,	45,859
Wheeling. W. Va.,	38,878
Wilkesbarre, Pa.,	51,721
Williamsport, Pa.,	28,757
Wilmington, Del.,	76,508
Woonsocket, R. I ,	28,204
Worcester. Mass.,	118,421
Yonkers, N. Y.,	47,931
York, Pa.,	33,708
Youngstown, Ohio,	44,885

THE TEN LARGEST CITIES OF THE WORLD.

London,	4,433,018	'96
New York,	3,437,202	
Paris,	2,536,870	'96
Canton,	2,000,000	'96
Berlin,	1,677,304	'95
Chicago,	1,698,575	
Vienna,	1,364,548	'90
Tokyo,	1,268,930	'96
St. Petersburg,	1,267,024	'97
Philadelphia,	1,293,697	

EUROPE.

	Area in Sq. Miles.	Population.
England,	50,823	27,482,104
Wales,	7,363	1,518,915
Scotland,	30,463	4,033,103
Ireland,	32,531	4,706,162
Isle of Man,	227	55,598
Channel Is.,	76	92,273
Brit. Isles,	121,483	37,888,155
Ger. Empire,	209,995	49,424,135
Luxemburg,	999	211,088
Netherlands,	12,742	4,558,095
Switzerland,	15,781	2,933,334
Swiss Lakes,	432	
Aus. Hungary,	261,819	42,630,650
Norway,	125,598	1,999,176
Sweden,	173,974	4,774,409
Scandinavia,	299,572	6,773,585
Denmark,	14,780	2,172,205
Belgium,	11,374	6,093,796
France,	207,166	38,218,903
Spain,	191,994	17,246,688
Portugal,	34,508	4,306,554
Italy,	110,657	30,158.408
Greece,	25,143	2,217,000
Turkey in Europe,	67,913	5,753,000
Russia in Europe, including Transcaucasia,	2,278,138	108,326,282

SOUTH AMERICA.

	Area in Sq. Miles.	Population.
Colombia,	513,900	4,000.000
Venezuela,	593,943	323,527
Guiana (Brit.),	88.652	285,315
" (Dutch),	46,060	66,038
" (French),	30,465	25,798
Brazil,	3,288,452	16,300,000
Paraguay,	97,726	730,000
Uruguay,	68,999	843,408
Argentina,	1,778,195	3,954,911
Chile,	299,626	3,300,000
Bolivia,	515,156	2,019.549
Peru,	439,014	3,000.000
Ecuador,	115,680	1,234,861

ASIA.

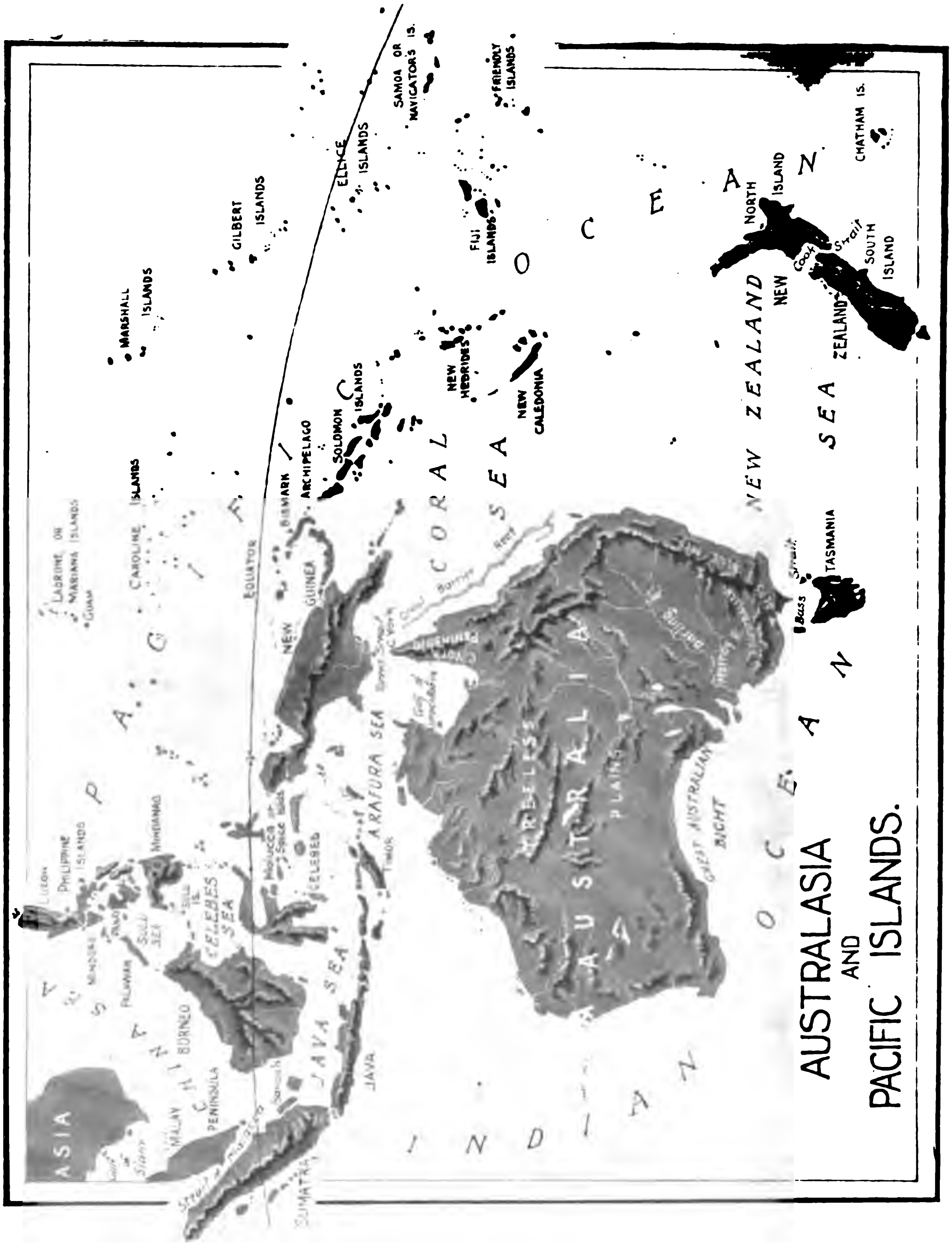
	Area in Sq. Miles.	Population.
Russia in Asia,	6,303.057	11,421,000
Turkey in Asia,	709,360	15,479.147
Ind. Arabia,	894,290	1,142.000
Oman,	64,984	1,000.000
Aden (Gr. B.),	7,993	130.000
Persia,	635,161	7,600,000
Afghanistan,	239,788	4,600,000
Beluchistan,	166,802	1,020,000
Brit. India,	1,779,514	292,382,000
Nepal, Bhutan,	84,173	3,260,000
Port. India,	1,412	514,000
French India,	197	283.000
Tonkin,	92,705	10,000,000
Anam,	123,607	6,000,000
Cochin China,	22,974	1,914,000
Cambodia,	38,612	1,000,000
French Possessions,	278,095	19,197,000
Siam,	220,000	9,000,000
China Proper,	1,532,920	347,000,000
Manchuria,	363,721	7,000,000
Mongolia,	1,093,094	1,850,000
Chinese Turk.,	550,602	1,000,000
Tibet,	738,254	1,650,000
Chinese Empire,	4,278,591	358,500,000
Hongkong (Gr. B.),	31	195,000
Macao (Port.),	5	71.000
Korea,	84.424	10,519,000
Japanese Emp.,	160.969	43,072,020
Sumatra Group,	180.407	3,783,000
Java Group,	50,864	22,818,000
Borneo Group,	284,375	1,740,000
Celebes Group,	77,274	1,500,000
Moluccas,	20,439	375.000
Philippine Is (U. S.),	114.361	7,000.000
Caroline Is. (Ger.),	560	36.000
Ladrone Is. (Ger.),	417	10,172
Other Islands,	45,131	2,196.000
As. East Indies,	773,828	39,458,172

AFRICA.

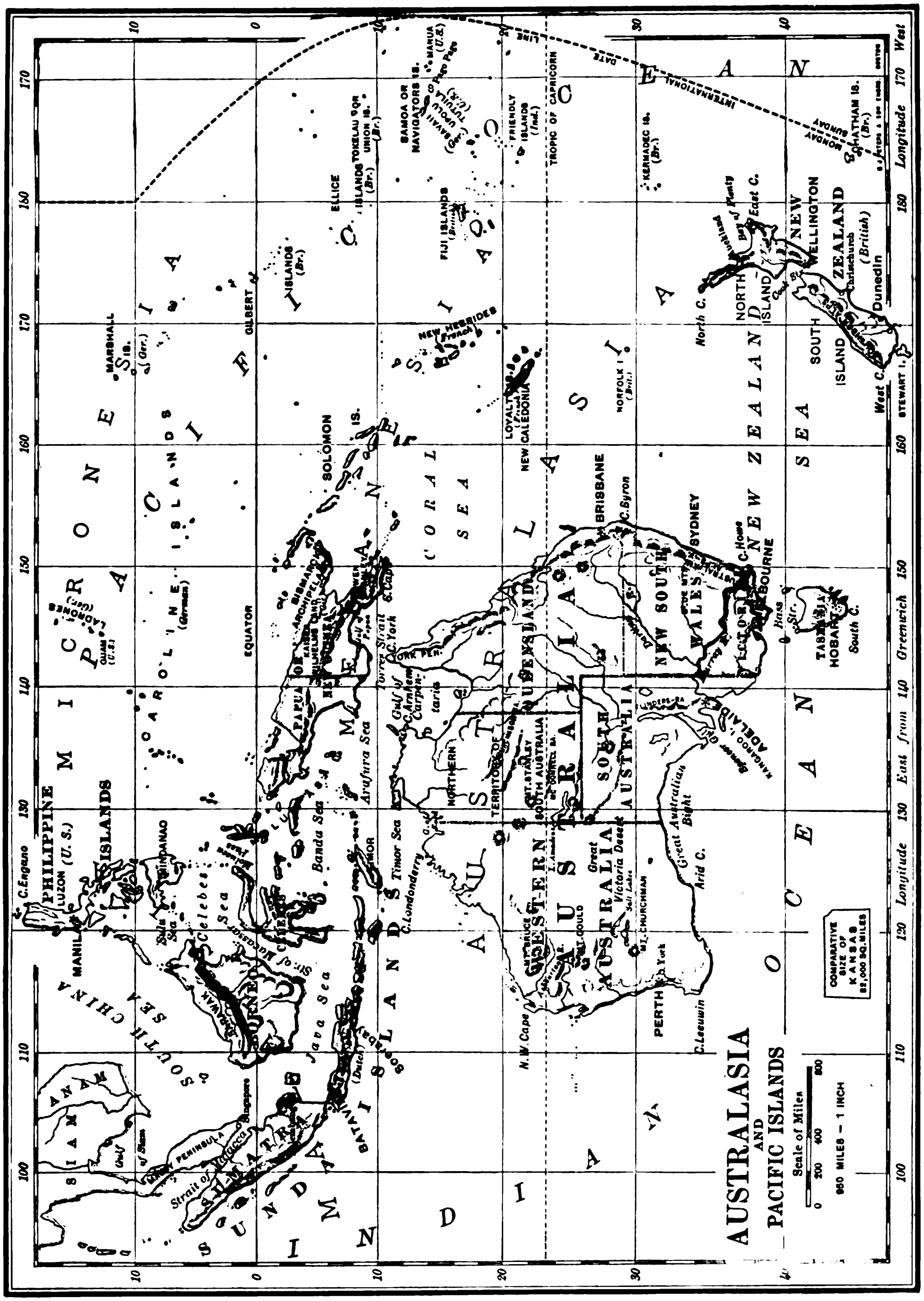
	Area in Sq. Miles.	Population.
Morocco,	313,642	8.016,000
Algeria,	257,578	3,855,000
Tunis,	44.906	1.500,000
Tripoli,	399,012	1,000,000
Egypt Proper,	361,134	6,818,000
Eg. Sudan, etc.,	758,949	10.830,000
Sahara,	2,386,352	2,500,000
Abyssinia,	196,147	4,500,000
Somali Land,	812,620	13,092,000
Western and Cen. Sudan,	2,210,399	76,334.000
Kongo State,	865,383	14,100,000
Port. S. Af.,	826,836	13,200,000
German S. Af.,	691,272	3,100,000
S. Afr. Repub.,	113,634	679,000
Orange Fr. St.,	50,465	208.000
Cape Colony,	222,422	1,525,739
Other Brit. S. Africa,	766,572	2,695,261

AUSTRALIA, ETC.

	Area in Sq. Miles.	Population.
Victoria,	88,451	1,140,000
N. S. Wales,	308,562	1,132,000
Queensland,	668.259	393,000
S. Australia,	904.133	320,000
W. Australia,	975,824	50,000
Natives,		38,000
Australia,	2,945,229	3,073,000
Tasmania,	26,215	156,622
N. Guinea Gr. of Is.,	311,965	837,000
N. Zealand Gr.,	104,663	673,500
Hawaiian Is.,	6,567	92,050



AUSTRALASIA AND PACIFIC ISLANDS.



PRONOUNCING VOCABULARY.

KEY.

āle, ăt, câre, ärm, a̤ll. ōld, fôr, ŏn. ch *as in* chop. n̲ *as in* ink. ñ *as in* banyan. ɴ *nearly like* ng *in* sing (*French nasal*).
ēve, ĕnd, hẽr. ūse, ŭp, fûr. g *as in* go. th *as in* thin. oi *as in* oil.
īce, ĭll. fo͞od, fo͝ot. ng *as in* sing. th *as in* the. ow *as in* cow.

Unmarked vowels obscure. See Key to International Dictionary.

Aberdeen, ăb-er-dēn'.
Abomey, ăb-ȯ-mā'.
Abyssinia, ăb-is-sin'ĭ-a.
Acapulco, ä-kȧ-po͞ol'kō.
Aconcagua, ä-kŏn-kä'gwä.
Adelaide, ăd'e-lād.
Aden, ä'den.
Adirondack, ăd-ĭ-rŏn'dak.
Adrian, ā'drĭ-an.
Adriatic, ăd-rē-ăt'ĭk.
Ægean, ē-jē'an.
Afghanistan, ăf-găn-ĭs-tän'.
Africa, ăf'rĭ-ka.
Agaña, ä-gän'yä.
Ajaccio, ä-yät'chō.
Akron, ăk'ron.
Alabama, ăl-a-bä'ma.
Alaska, ȧ-lăs'ka.
Albany, a̤l'ba-nĭ.
Albemarle, ăl'be-märl.
Albuquerque, ăl-bo͞o-kär'kā.
Aleutian, ā-lū'shĭ-an.
Alexandria, ăl-ĕgs-ăn'drĭ-a.
Algeria, ăl-jē'rĭ-ȧ.
Algiers, ăl-jērz'.
Alleghany, ăl'e-gā-nĭ.
Allegheny, ăl'e-gā-nĭ.
Alpine, ăl'pīn.
Altai, äl-tī'.
Altamaha, a̤l-ta-ma-ha̤'.
Altoona, ăl-to͞o'na.
Amazon, ăm'a-zŏn.
Amsterdam, ăm'ster-dăm.
Amur, ä-mo͞or'.
Anam, ȧ-năm'.
Andean, ăn-dē'an.
Andes, ăn'dēz.
Androscoggin, ăn-dros-cŏg'in.
Annapolis, ăn-năp'ō-lĭs.
Antarctic, ăn-tärk'tĭk.
Anticosti, ăn-tĭ-kŏs'ti.
Antofagasta, än-tō-fä-gäs'tä.
Antwerp, ănt'werp.
Anvick, ăn-vĭk'.
Apalachee, ăp-a-lăch'ē.
Apennines, ăp'en-nīnz.
Apia, ä'pē-ä.
Appalachian, ăp-pa-lā'chĭ-an.
Appalachicola, ā-pa-lăch-ĭ-kō'lā.
Appomattox, ăp-pō-măt'toks.
Arab, ăr'ăb.
Arabian, ā-rā'bĭ-an.
Aral, ăr'al.
Ararat, ăr'a-răt.
Archangel, ärk-ān'jĕl.
Archipelago, är-kĭ-pĕl'ā-gō.
Arctic, ärk'tĭk.
Arequipa, ä-rā-kē'pä.
Argentina, är'jĕn-tē'-na.
Arizona, ăr-ĭ-zō'na.
Arkansas, är'kan-sa̤'.
Asia, ā'shĭ-a.
Asiatic, ā-shĭ-ăt'ĭk.
Astoria, ăs-tō'rĭ-a.
Astrakhan, äs-trä-kän'.
Atacama, ä-tä-kä'mä.
Atchafalaya, ăch-af-a-lī'a.
Atchison, ăch'ĭ-son.
Athabasca, ăth-a-băs'ka.
Athens, ăth'ĕnz.
Atlanta, ăt-lăn'ta.
Atlantic, ăt-lăn'tĭk.
Auckland, a̤k'land.
Augusta, a̤-gŭs'ta.
Austin, a̤s'tĭn.
Australia, a̤s-trā'lĭ-ȧ.
Austria, a̤s'trĭ-a.
Avon, ā'von.
Azov, ä-zŏv'.
Azores, a-zōrz'.

Bahama, ba-hā'ma.
Bahia, bä-ē'ä.
Baikal, bī'käl.
Baku, bä-ko͞o'.
Balearic, băl-e-ăr'ĭk.
Balize, bä-lēz'.
Balkan, băl-kän'.
Balkash, băl-käsh'.
Baltic, ba̤l'tĭk.
Baltimore, ba̤l'tĭ-mor *or* mōr.
Baluchistan, bä-lo͞o-chĭs-tän'.
Bangkok, băn̲'kŏk'.
Bangor, băn'gôr.
Barcelona, bär-se-lō'nä.
Batangas, bä-tän'gäs.
Baton Rouge, băt-ŭn ro͞ozh'.
Bayou, bī'o͞o.
Beaufort, bō'fōrt (N. C.) *or* bū'fŭrt (S. C.).
Bechuanaland, bĕk-ū-ăn'a-lănd.
Bedouin, bĕd'o͞o-ēn.
Belfast, bĕl'făst (Me.) *or* bĕl-făst' (Ireland).
Belgium, bĕl'jĭ-ŭm.
Belgrade, bĕl-grād'.
Belle Isle, bĕl īl'.
Benares, bĕn-ä'rēz.
Bengal, bĕn-ga̤l'.
Benue, bĕn-o͞o-ē'.
Berber, bẽr'ber.
Bergen, bĕr'gen.
Bering, bē'rĭng.
Berlin, bẽr'lĭn *or Ger*. bĕr-lēn'.
Bermuda, ber-mū'da.
Bern, bẽrn.
Bhutan, bo͞o-tän'.
Binghamton, bĭng'am-ton.
Birmingham, bẽr'mĭng-ŭm.
Biscay, bĭs'kā.
Bismarck, bĭs'märk.
Bloemfontein, blo͞om-fŏn'tīn.
Bogota, bō-gō-tä'.
Bohol, bō-hōl'.
Boisé, boi-zā'.
Bokhara, bŏk-ä'rä.
Bolan, bō'lan.
Bolivia, bo-lĭv'ĭ-a.
Boma, bō'mä.
Bombay, bŏm-bā'.
Boothia, bo͞o'thĭ-a.
Bordeaux, bôr-dō'.
Borneo, bôr'nē-ō.
Bosnia, bŏz'nĭ-ä.
Bosporus, bŏs'pō-rŭs.
Bothnia, bŏth'nĭ-a.
Brahmaputra, brä-ma-po͞o'tra.
Brazil, bra-zĭl'.
Brazos, brä'zos.
Bremen, brā'mĕn.
Breslau, brĕs'low.
Brest, brĕst.
Brindisi, brēn'dē-sē.
Brisbane, brĭs'bān.
Brooklyn, brook'lĭn.
Brussels, brŭs'selz.
Bucharest, bū-ka-rĕst'.
Budapest, bo͞o'da-pĕst.
Buenos Ayres, bō'nŭs ā'rĭz *or Sp*. bwā'nōs ī'rĕs.
Bulgaria, bo͝ol-gā'rĭ-a.
Burlington, bûr'lĭng-ton.
Burma, bûr'mä.
Butte, būt.

Cairo, kā'rō (U.S.); kī'rō (Egypt).
Calcutta, kăl-kŭt'ta.
California, kăl-ĭ-fôr'nĭ-a.
Callao, käl-lä'ō.
Cambodia, kăm-bō'de-a.
Cambridge, kām'brĭj.
Campeche, käm-pā'chā.
Canada, kăn'a-da.
Canadian, ka-nā'de-an.
Canary, ka-nā'rĭ.
Cantabrian, kăn-tā'bri-an.
Canton, kăn'ton (U. S.); kăn-tŏn' (China).
Cape Breton, brĕt'ŏn.
Carácas, kä-rä'käs.
Cardenas, cär'dĕ-näs.
Caribbean, kăr-ĭb-bē'an.
Carolina, kăr-ō-lī'na.
Carpathian, kär-pā'thĭ-an.
Carpentaria, kär-pĕn-tā're-a.
Cartagena, kär-ta-jē'na.
Cascade, kăs-kād'.
Caspian, kăs'pĭ-an.
Cassiquiari, kȧ-sē-kē-ä'rē.
Catoche, kä-tō'shā.
Caucasus, ka̤'ka-sŭs.
Cavite, kä-vē-tā'.
Cayenne, kā-yĕn'.
Celebes, sĕl'e-bēz.
Cenis, se-nē'.
Cettinje, chā-tēn'yā.
Cévennes, sā-vĕnn'.
Ceylon, sē-lŏn'.
Champlain, shăm-plān'.
Chapala, shā-pä'lä.
Chattahoochee, chăt-ta-ho͞o'chē.
Chattanooga, chăt-tă-no͞o'ga.
Chautauqua, sha-ta̤'kwa.
Chelsea, chĕl'sē.
Cherbourg, shĕr'bûrg.
Chesapeake, chĕs'a-pēk.
Cheyenne, shī-ĕn'.
Chicago, she-ka̤'gō.
Chihuahua, chē-wä'wä.
Chile, chē'lā.
Chimborazo, chĭm-bō-rä'zō.
Chinese, chī'nēz.
Christiania, krĭs-tē-ä'nē-ä.
Cienfuegos, sē-ĕn'fwā'gōs.
Cinchona, sĭn-kō'na.
Cincinnati, sĭn-sĭn-nä'tĭ.
Clyde, klīd.
Cologne, kō-lōn'.
Colombia, kō-lŏm'bē-ä.
Colon, kō-lōn'.
Colorado, kŏl-o-rä'dō.
Concepcion, kon-sĕp'shŭn.
Concord, kŏn̲k'urd.
Connecticut, kŏn-nĕt'ĭ-kŭt.
Constance, kŏn'stans.
Constantinople, kŏn-stăn'tĭ-nō'p'l.
Copenhagen, kō'pen-hā'gen.
Cordova, kôr'dō-vä.
Corinth, kŏr'ĭnth.
Corpus Christi, kôr'pŭs krĭs'tē.
Corrientes, kōr-rē-ĕn'tĕs.
Corsica, kôr'sĭ-ka.
Costa Rica, kŏs'tä rē'kä.
Cotopaxi, kō-tō-păk'sē.
Covington, kŭv'ĭng-ton.
Cracow, krā'kō.
Cuba, kū'ba.
Cusco, ko͞os'kō.
Cyprus, sī'prŭs.

Dahomey, dä-hō'mā.
Dakota, da-kō'ta.
Dallas, dăl'as.
Damascus, da-măs'kŭs.
Dantzic, dănt'zĭk.
Danube, dăn'ūb.
Dardanelles, där-da-nĕlz'.
Darien, dā're-ĕn.
Davenport, dăv'en-pōrt.
Decatur, dē-kā'tur.
Dekkan, dĕk'kan.
Delaware, dĕl'a-wâr.
Delhi, India, dĕl'lē.
Des Moines, de moin'.
Detroit, de-troit'.
Dnieper, nē'per.
Dniester, nēs'ter.
Dovrefield, dō-vre-fyĕld'.
Drave, drāv.
Dresden, drĕz'den.
Dubuque, do͞o-būk'.
Duluth, dū-lo͞oth'.
Dundee, dŭn-dē'.
Dunedin, dŭn-ēd'ĭn.
Dwina, dwē'na.

Ebro, ē'brō.
Ecuador, ĕk-wä-dōr'.
Edinburgh, ĕd'in-bŭr-ō.
Egypt, ē'jĭpt.
Egyptian, ē-jĭp'shan.
Elba, ĕl'bä.
Elbe, ĕl'be.
Elburz, ĕl-bo͝orz'.
Elmira, ĕl-mī'ra.
El Paso, ĕl pä'sō.
Etna, ĕt'na.
Euphrates, ū-frā'tēz.
Eurasia, ū-rā'shĭ-a.
European, ū-rō-pē'an.
Evansville, ĕv'anz-vĭl.
Everest, ĕv'er-ĕst.

Falkland, fąk'land.
Fezzan, fĕz-zän'.
Fiji, fē'jē.
Finisterre, fĭn-ĭs-târ'.
Finland. fĭn'land.
Fiord, fyōrd.
Florida, flŏr'ĭ-da.
Fond du Lac, fŏn dū läk'.
Formosa, fôr-mō'sä.
Fort Wayne, wān.
Frankfurt, fräŋk'fo͝ort.
Fraser, frā'zer.
Fremont, frē-mŏnt'.
Fresno, frĕs'nō.
Fuchau, fo͞o'chow.
Fuegian, fū-ē'jĭ-an.
Fusiyama, fo͞o-zĭ-ä'mä.

Galapagos, gä-läp'ä-gōs.
Galilee, găl'ĭ-lē.
Galveston, găl'ves-ton.
Galway, gąl'wā.
Ganges, găn'jēz.
Garonne, gä-rŏnn'.
Genesee, jĕn-e-sē'.
Geneva, je-nē'va.
Genoa, jĕn'o-a.
Georgia, jôr'jĭ-a.
Gettysburg, gĕt'ĭz-bûrg.
Ghats, gâts.
Ghent, gĕnt.
Gibraltar, jĭ-brąl'tar.
Gila, hē'lä.
Gironde, zhē-rŏɴd'.
Glasgow, glăs'gō.
Gloucester, glŏs'ter.
Gobi, gō'bē.
Grinnell, grĭn-ĕl'.
Guadalquivir, gwä-däl-kē-vēr'.
Guam, gwäm.
Guanaco, gwa-nä'kō.
Guanajuato, gwä-nä-hwä'tō.
Guatemala, gwą-tä-mä'lä.
Guayaquil, gwī-ä-kēl'.
Guiana, gē-ä'nä.
Guinea, gĭn'ē.

Haiti, hā'tĭ.
Hakodate, hä-kō-dä'tē.
Halifax, hăl'e-făks.
Hang Chau, hăng'chow.
Hatteras, hăt'ter-as.
Havana, ha-văn'a.
Havre, hä'ver.
Hawaii, hä-wī'ē.
Hebrides, hĕb'rĭ-dēz.
Hecla, hĕk'la.
Helena, hĕl'e-na.
Henlopen, hĕn-lō'pen.
Herat, her-ät'.
Hilo, hē'lō.
Himalaya, hĭm-ä'la-ya.
Hindu-Kush, hĭn'do͞o-ko͞osh.
Hindustan, hĭn-do-stän'.
Hoang, ho-ăng'.
Holguin, hŏl-gēn'.
Holyoke, hōl'yōk.
Hondo, hŏn'dō.
Honduras, hŏn-do͞o'ras.
Hongkong, hŏng-kŏng'.
Honolulu, hō-nō-lo͞o'lo͞o.
Hoosac, ho͞o'sak.
Housatonic, hōō-sa-tŏn'ĭc.
Houston, hūs'ton.
Hudson, hŭd'son.
Hué, hōō-ā'.
Humboldt, hŭm'bōlt.
Hungary, hŭn'ga-rĭ.
Huron, hū'ron.

Idaho, ī'da-hō.
Illinois, ĭl-lĭ-noi' *or* -noiz'.
Iloilo, ē-lō-ē'lō.
India, ĭn'dĭ a.
Indiana, ĭn-dĭ-ăn'a.
Indianapolis, ĭn-dĭ-ăn-ăp'o-lĭs.
Indies, ĭn'dēz.
Indus, ĭn'dŭs.
Ionian, ī-ō'nĭ-an.
Iowa, ī'ō-wa.
Iquique, ē-kē'kā.
Iran, ē-rän'.
Irkutsk, ĭr-ko͝otsk'.
Italian, ĭ-tăl'yan.
Itasca, ī-tăs'ka.
Ithaca, ĭth'a-ka.

Jamaica, ja-mā'ka.
Japan, ja-păn'.
Java, jä'va.
Jersey, jĕr'zĭ.
Johannesburg, yō-hăn'nes-bûrg.
Joliet, jō'le-ĕt.
Juan de Fuca, ho͞o-ăn dā fo͞o'kä.
Juan Fernandez, fĕr-năn'dēth.
Juneau, jū-nō'.
Jungfrau, yo͝ong'frow.
Juniata, jū-nĭ-ăt'ä.

Kabul, kä'bul.
Kadiak, kăd-yăk'.
Kalahari, kä-lä-hä'rĭ.
Kamchatka, kăm-chăt'ka.
Kamerun, kä-mä-ro͞on'.
Kanawha, ka-ną'wa.
Kankakee, kăŋ-ka-kē'.
Kansas, kăn'sas.
Kara, kä'rä.
Katahdin, ka-tä'dĭn.
Kauai, kow-ī'ē.
Kenia, kā-nē'ä.
Kennebec, kĕn-e-bĕk'.
Kentucky, kĕn-tŭk'ĭ.
Keokuk, kē'ō-kŭk.
Khaibar, kä'ē-bär.
Khartum, kär-to͞om'.
Khelat, kel-ät'.
Khin-ghan, kĭn-găn'.
Khiva, kē'vä.
Kief, kēf.
Kilauea, kē-low-ā'a.
Kilimanjaro, kĭl'ē-măn-jä-rō'.
Kiolen, kyō'len.
Kioto, kē-ō'tō.
Kirghiz, kĭr-gēz'.
Klamath, klă'math.
Klondike, klŏn'dĭk.
Knoxville, nŏks'vĭl.
Kongo, kŏŋ'gō.
Kordofan, kôr-dō-făn'.
Korea, kō-rē'a.
Kuenlun, kwĕn-lo͞on'.
Kyoto, kē-ō'tō.

Labrador, lăb-ra-dôr'.
Lachine, lä-shēn'.
Lacrosse, la-krôs'.
Ladoga, lăd'ō-ga.
Ladrones, la-drōnz'.
Lafayette, lä-fä-ĕt'.
La Guaira, lä gwī'rä.
Landes, lŏɴd.
Lansing, lăn'sĭng.
La Paz, lä päth'.
La Plata, lä plä'tä.
Laramie, lăr'a-mē.
Lassa, läs'sä.
Las Vegas, läs vā'gäs.
Laurentian, lą-rĕn'she-an.
Leadville, lĕd'vĭl.
Leavenworth, lĕv'en-worth.
Leipsic, līp'sĭk.
Lena, lē'na.
Leona, lē-ō'nē.
Lexington, lĕk'sĭng-ton.
Leyte, lā'ē-tä.
Liberia, lī-bē'rĭ-a.
Libyan, lĭb'e-an.
Lille, lēl.
Lima, lē'mä (Peru).
Lingayen, lēn-gä-yĕn.
Lipari, lĭp'a-rē.
Lisbon, lĭz'bon.
Liverpool, lĭv'er-po͞ol.
Llano Estacado, lyä'nō ĕs-tä-kä'dō.
Loanda, lō-ăn'dä.
Lofoden, lō-fō'den.
Loire, lwär.
Los Angeles, lōs ăŋ'gĕl-ĕs.
Louisiana, lo͞o-ē-zē-ä'na.
Louisville, lo͞o'ĭs- *or* lo͞o'ĭ-vĭl.
Lourenço Marques, lō-rĕn'sō mär-kĕs.
Lucerne, lo͞o-sĕrn'.
Luray, lū-rā'.
Luxemburg, lŭks'ĕm-bûrg.
Luzon, lo͞o-zŏn'.
Lyons, lī'ŏnz.

Macao, mä-kä'o.
Macassar, ma-kăs'sar.
Mackenzie, ma-kĕn'zĭ.
Mackinac, măk'ĭ-ną.
Macon, mā'kun.
Madagascar, măd-a-găs'kar.
Madeira, ma-dē'ra.
Madras, ma-drăs'.
Madrid, măd'rĭd (U. S.); ma-drĭd' (Spain).
Maelström, māl'strĕm.
Magdalena, măg-dä-lā'nä.
Magdeburg, măg'de-bo͝org.
Magellan, ma-jĕl'an.
Maine, mān.
Malacca, ma-lăk'a.
Managua, mä-nä'gwä.
Manchester, măn'ches-ter.
Manchuria, măn-cho͞o're-a.
Mandalay, măn'dä-lā.
Manila, ma-nĭl'a.
Manitoba, măn-ĭ-tō-bä'.
Manzanillo, män-thä-nēl'yō.
Maori, mä'ō-rē.
Maracaibo, mä-rä-kī'bō.
Marajo, mä-rä-zhō'.
Marañon, mä-rän-yōn'.
Marmora, mär'mo-ra.
Marseilles, mär-sālz'.
Martinique, mär-tĭ-nēk'.
Maskat, măs-kăt'.
Massachusetts, măs-a-chū'sets.
Matagorda, măt-a-gôr'da.
Matamoros, măt-a-mō'ros.
Matanzas, ma-tăn'zas.
Matapan, mä-tä-pän' (Gr.).
Maui, mow'ē.
Mauna Kea, mow'nä kā'ä.
Mauna Loa, lō'ä.
Mauritius, mą-rĭsh'ĭ-ŭs.
Mazatlan, mä-sät-län'.
Mediterranean, mĕd-ĭ-ter-rā'ne-an.
Mekong, mā-kŏng'.
Melbourne, mĕl'bŭrn.
Memphremagog, mĕm-fre-mā'gŏg.
Memphis, mĕm'fĭs.
Mendocino, mĕn-dō-sē'nō.
Meriden, mĕr'ĭ-dĕn.
Merrimac, mĕr'ĭ-mak.
Mersey, mĕr'zĭ.
Messina, mĕs-sē'nä.
Mexico, mĕks'ĭ-kō.
Michigan, mĭsh'ĭ-gan.
Milan, mĭl'an *or* mĭ-lăn'.
Milwaukee, mĭl-wą'kē.
Mindanao, mēn-dä-nä'ō.
Mindoro, mēn-dō'rō.
Minneapolis, mĭn-e-ăp'o-lĭs.
Minnesota, mĭn-e-sō'ta.
Mississippi, mĭs-ĭs-ĭp'ĭ.
Missouri, mĭs-o͞o'rĭ.
Mobile, mō-bēl'.
Mohave, mō-hä'vä.
Mohawk, mō'hąk.
Molokai, mō-lō-kī'.
Moluccas, mō-lŭk'kaz.
Mombasa, mŏm-bäs'a.
Mongolia, mŏn-gō'lĭ-a.
Monongahela, mō-nŏn-ga-hē'la.
Monrovia, mŏn-rō'vĭ-a.
Montana, mŏn-tä'na.
Montauk, mŏn-tąk'.
Mont Blanc, mōɴ blŏɴ' *or* mount blăŋk.
Mont Cenis, mōɴ' se-nē' *or* mount.
Montenegro, mōn-tā-nā'grō.
Monterey, mŏn-te-rā'.
Montevideo, mŏn-tē-vĭd'ē-ō.
Montgomery, mont-gŭm'er-ĭ.
Montpelier, mŏnt-pē'lĭ-er.
Montreal, mŏnt-re-ąl'.
Moray, mŭr'ā.
Morocco, mō-rŏk'ō.
Moscow, mŏs'kō.
Mount St. Elias, e-lī'as.
Mount Tyndall, tĭn'dal.
Mozambique, mō-zam-bēk'
Mukden, mo͝ok-dĕn'.
Munich, mū'nĭk.
Murray, mŭr'rā.
Muskegon, mŭs-kē'gon.

Nan-ling, năn'lĭng.
Nantes, nănts.
Nantucket, năn-tŭk'et.
Naples, nā'plz.
Narragansett, năr-ra-găn'set.
Nashua, năsh'ū-a.
Nassau, năs'ą.
Natchez, nă'chez.
Nebraska, ne-brăs'ka.
Nepal, nā-päl'.
Netherlands, nĕth'er-landz.
Neuse, nūs.
Nevada, ne-vä'da.
Newark, nū'ark.
Newfoundland, nū'fond-land.
New Hampshire, hămp'shir.
New Orleans, ôr'le-anz.
Newport, nū'pōrt.
New Zealand, zē'land.
Niagara, nī-ăg'a-ra.
Nicaragua, nē-kä-rä'gwä.
Niger, nī'jer.
Nijni Novgorod, nĭj'nē nŏv-gŏ-rŏd'
Ningpo, nĭng-pō.
Norfolk, nôr'fok.
Norwegian, nŏr-wē'jĭ-an.
Norwich, nŏr'wĭch (U. S.); nŏr'rĭj (Eng.).
Nova Scotia, nō'va skō'shĭ-a.
Nova Zembla, nō'va zĕm'bla.
Nubia, nū'bĭ-a.
Nueces, nwā'sēs.
Nuevitas, nwā-vē'tas.
Nyanza, nī-ăn'za.
Nyassa, nē-ăs'sä.

Oahu, ō-ä'ho͞o.
Oakland, ōk'land.
Obi, ō'bē.
Odessa, ō-dĕs'sa.
Ogden, ŏg'dĕn.
Okechobee, ō-kē-chō'bē.
Okefinokee, ō-kē-fĭ-nō'kē.
Okhotsk, ō-kŏtsk'.
Oklahoma, ŏk-lä-hō'ma.
Olympia, ō-lĭm'pĭ-a.
Omaha, ō'ma-hą.
Oman, ō-män'.
Omsk, ŏmsk.
Onega, ō-nē'ga.

Oneida, ō-nī'da.
Ontario, ŏn-tā'rĭ-ō.
Oregon, ŏr'e-gŏn.
Orinoco, ō-rĭ-nō'kō.
Orizaba, ō-rē-thä'bä.
Orkney, ôrk'nē.
Oshkosh, ŏsh'kosh.
Oswego, ŏs-wē'gō.
Otranto, ō-trän'tō.
Ottawa, ŏt'ta-wa.
Ozark, ō-zärk'.

Pacific, pa-sĭf'ĭk.
Paducah, pa-dū'ka.
Pago, pä'gō.
Palawan, pä-lä-wän'.
Palermo, pa-lẽr'mō.
Palestine, păl'es-tīn.
Pamir, pä-mēr'.
Pamlico, păm'lĭ-kō.
Pampas, păm'päs.
Panama, păn-a-mä'.
Panay, pä-nī'.
Papua, päp'o͞o-a.
Pará, pä-rä'.
Paraguay, pä-rä-gwī.
Paramaribo, păr-a-mär'ĭ-bō.
Paraná, pä-rä-nä'.
Paris, păr'ĭs.
Passaic, păs-sā'ĭk.
Passamaquoddy, păs-a-ma-kwŏd'ĭ.
Patagonia, păt-a-gō'nĭ-a.
Paterson, păt'er-son.
Pawtucket, pa̤-tŭk'et.
Pedee, pē-dē'.
Peking, pē-kĭng'.
Peling, pē-lĭng'.
Pennsylvania, pĕn-sĭl-vā'nĭ-a.
Penobscot, pe-nŏb'scot.
Pensacola, pĕn-sa-kō'la.
Peoria, pē-ō'rĭ-a.
Pernambuco, pẽr-näm-bo͞o'kō.
Persia, pẽr'shĭ-a.
Perth, pẽrth.
Peru, pe-ro͞o'.
Phenix, fē'nĭks.
Philadelphia, fĭl-a-dĕl'fĭ-a.
Philippine, fĭl'ĭp-ĭn.
Piedmont, pēd'mŏnt.
Pierre, pē-âr'.
Pietermaritzburg, pē-ter-mâr'ĭts-bûrg.
Pindus, pĭn'dŭs.
Pinos, pē'nōs.
Piraeus, pī-rē'ŭs.
Pittsburg, pĭts'bûrg.
Platte, plăt.
Plymouth, plĭm'ŭth.
Pompeii, pŏm-pā'yē.
Ponce, pōn'thā.
Pontchartrain, pŏnt-char-trān'.
Popocatepetl, pō-pō'kăt-ā-pā-tl.
Port au Prince, pōrt ō prĭns'.
Porto Rico, pōr'tō rē'kō.
Port Said, sä-ēd'.
Portsmouth, pōrts'mŭth.
Portugal, pōr'tū-gal.
Portuguese, pōr'tū-gēz.
Potomac, pō-tō'mak.
Potosi, pō-tō-sē'.
Poughkeepsie, po-kĭp'sĭ.
Prague, präg.
Pretoria, prē-tôr'ē-a.
Pribilof, prē-bē-lŏv'.
Providence, prŏv'ĭ-dens.
Prussia, prŭsh'ya.
Pueblo, pwĕb'lō.
Puerto Principe, pwĕr'tō prēn'sē-pā.
Puget, pū'jet.
Pyrenees, pĭr'e-nēz.

Quebec, kwe-bĕk'.
Querétaro, kā-rā'tä-rō.
Quincy, kwĭn'zĭ.
Quito, kē'tō.

Racine, ra-sēn'.
Rainier, rā'nēr.
Raleigh, ra̤'la.
Rappahannock, răp-a-hăn'ok.
Reading, rĕd'ĭng.
Rhine, rīn.
Rhone, rōn.
Riga, rī'ga (U. S.); rē'gä (Rus.).
Rio Grande, rē'ō grän'dā.
Rio Janeiro, zhä-nā'ē-rō.
Rio Negro, nā'grō.
Roanoke, rō-a-nōk'.
Rochester, rŏch'es-ter.
Rotterdam, rŏt'er-dăm.
Roumelia, ro͞o-mē'le-a.
Roumania, ro͞o-mā'nĭ-a.
Russia, rŭsh'a.

Saco, sa̤'kō.
Sacramento, săk-ra-mĕn'tō.
Saginaw, săg'ĭ-na̤.
Sahama, sä'hä-mä.
Sahara, sȧ-hä'ra.
Saigon, sī-gŏn'.
Saint Albans, sānt a̤l'banz.
Saint Augustine, a̤'gŭs-tēn.
Saint Clair, klâr'.
Saint Croix, kroi'.
Saint Gothard, gō-tärd'.
Saint Helena, sĕnt he-lē'na.
Saint Lawrence, sānt la̤'rens.
Saint Louis, lo͞o'ĭs *or* lo͞o'ĭ.
Saint Petersburg, pē'terz-bûrg.
Saint Roque, rōk.
Sakhalin, sä-khä-lēn'.
Salem, sā'lem.
Salonika, sä-lō-nē'kä.
Salvador, säl-vä-dōr'.
Samarkand, săm-ar-kănd'.
Samoa, sä-mō'ä.
San Antonio, săn ăn-tō'nĭ-ō.
San Bernardino, bẽr-när-dē'nō.
San Diego, săn dē-ā'gō.
Sandusky, săn-dŭs'kĭ.
San Francisco, frăn-sĭs'kō.
San Joaquin, sän hō-ä-kēn'.
San José, hō-sā'.
San Juan, ho͞o-än'.
San Lucas, lo͞o'kas.
Santa Barbara, săn'ta bär'ba-ra.
Santa Fé, fā.
Santee, săn-tē'.
Santiago, sän-tē-ä'gō.
Santo Domingo, sän'tō dō-mēn'gō.
Santos, sän'tōs.
Saratoga, săr-a-tō'ga.
Sardinia, sär-dĭn'ĭ-a.
Saskatchewan, săs-kăch'e-wa̤n.
Sault Sainte Marie, so͞o sĕnt mä'rĭ.
Savannah, sa-văn'a.
Save, säv.
Scandinavia, skăn-dĭ-nā'vĭ-a.
Schenectady, ske-nĕk'ta-dĕ.
Schuylkill, sko͞ol'kĭl.
Scotland, skŏt'land.
Scranton, skrăn'ton.
Seattle, sē-ăt'l.
Seine, sān.
Seneca, sĕn'e-ka.
Senegal, sĕn-e-ga̤l'.
Senegambia, sĕn-e-găm'bĭ-a.
Seoul, sā-o͞ol'.
Servia, sẽr'vĭ-a.
Shanghai, shăng-hä'ĭ.
Shannon, shăn'on.
Shasta, shăs'ta.
Sheboygan, she-boi'gan.
Sheffield, shĕf'fēld.
Shenandoah, shĕn-ăn-dō'a.
Shoshone, shō-shō'nē.
Shreveport, shrēv'pōrt.
Siam, sī-ăm'.
Siberia, sī-bē'rĭ-a.
Sicily, sĭs'ĭ-lĭ.
Sierra Madre, sē-ĕr'a mä'drā.
Singapore, sĭn-ga-pōr'.
Sioux, so͞o'.
Sitka, sĭt'ka.
Smyrna, smẽr'na.
Sokoto, sō-kō-tō'.
Somali, sō-mä'lē.
Somerville, sŭm'er-vĭl.
Spokane, spō-kăn'.
Stanovoi, stä-nō-voi'.
Stockholm, stŏk'hōlm.
Strasburg, sträz'bûrg.
Stuttgart, sto͝ot'gärt.
Sucre, so͞o'kre.
Sudan, so͞o-dän'.
Suez, so͞o-ĕz'.
Sulu, so͞o-lo͞o.
Sumatra, so͞o-mä'trä.
Sunda, sŭn'da.
Sunderland, sŭn'der-land.
Susquehanna, sŭs-kwe-hăn'a.
Sweden, swē'den.
Switzerland, swĭt'zer-land.
Sydney, sĭd'nĭ.
Syracuse, sĭr'a-kūs.
Syria, sĭr'ĭ-a.

Tabriz, tä-brēz'.
Tacoma, tä-kō'mä.
Tagus, tā'gŭs.
Tahoe, tä-hō'.
Tahlequah, tä'lē-kwä.
Tallahassee, tăl-a-hăs'ē.
Tampa, tăm'pa.
Tampico, tăm-pē'kō.
Tananarivo, tä-nä'nä-rē-vō.
Tanganyika, tän-gän-yē'kä.
Taranto, tä'rän-tō.
Tasmania, tăz-mā'nĭ-a.
Taunton, tän'ton.
Taurus, ta̤'rŭs.
Tchad, chăd.
Tegucigalpa, tā-go͞o-sē-gäl'pä.
Teherân, te-hrän'.
Tehuantepec, tā-wän-tā-pĕk'.
Tennessee, tĕn-nes-sē'.
Terre Haute, tĕr-e hōt'.
Texas, tĕks'as.
Thames, thāmz (U. S.); tĕmz (Eng.).
Theiss, tīs.
Thian-Shan, tē-än'shän.
Tiber, tī'ber.
Tibet, tĭ-bĕt' *or* tĭb'ĕt.
Tien-tsin, tē-ĕn'tsēn.
Tierra del Fuego, tē-ĕr'rä dĕl fwā'gō.
Tiflis, tĭf-lēs'.
Tigris, tī'grĭs.
Timbuktu, tĭm-bo͝ok'to͞o.
Timor, tē-mōr'.
Titicaca, tĭt-ē-kä'kä.
Tocantins, tō-kän-tēns'.
Tokyo, tō'kē-ō.
Toledo, tō-lē'dō.
Tolima, tō-lē'mä.
Tombigbee, tŏm-bĭg'bē.
Topeka, tō-pē'ka.
Toronto, tō-rŏn'tō.
Trieste, trē-ĕst'.
Trinidad, trĭn-ĭ-dăd'.
Tripoli, trĭp'o-lĭ.
Tucson, tū-sŏn'.
Tunis, tū'nĭs.
Turin, tū'rĭn.
Turkestan, to͞or-kĭs-tän'.

Uinta, ū-ĭn'ta̤.
Ujiji, o͞o-jē'jē.
Ural, ū'ral.
Uruguay, o͞o-ro͞o-gwī'.
Utah, ū'tä *or* ū'ta̤.
Utica, ū'tĭ-ka.

Valdai, väl'dī.
Valencia, va-lĕn'shĭ-a.
Valparaiso, väl-pä-rī'sō.
Vancouver, văn-ko͞o'ver.
Venezuela, vĕn-e-zwē'la.
Venice, vĕn'ĭs.
Vera Cruz, vā'rä kro͞os'.
Verde, vẽrd.
Vermont, ver-mŏnt'.
Vesuvius, vē-sū'vĭ-ŭs.
Victoria, vĭk-tō'rē-a.
Vienna, vĭ-ĕn'a (U. S.): vē-ĕn'ä (Austria).
Virginia, ver-jĭn'ĭ-a.
Vistula, vĭs'tū-la.
Vladivostok, vlä-dē-vōs-tŏk'.
Volga, vŏl'gä.

Wabash, wa̤'bash.
Wachusett, wa̤-chū'set.
Wadai, wä'dī.
Wales, wālz.
Warsaw, wa̤r'sa̤.
Wasatch, wa̤'săch.
Welland, wĕl'and.
Wellington, wĕl'ĭng-ton.
Wener, vā'ner.
Westminster, wĕst'mĭn-ster.
Wetter, vĕt'ter.
Wheeling, hwēl'ĭng.
Wichita, wĭch'ĭ-ta̤.
Wilkesbarre, wĭlks'băr-ĭ.
Willamette, wĭl-ä'mĕt.
Wilmington, wĭl'mĭng-ton.
Winnemucca, wĭn-ē-mŭk'a.
Winnepesaukee, wĭn-ē-pe-sa̤'kē.
Winnipeg, wĭn'ĭ-pĕg
Winona, wī-nō'na.
Winooski, wī-no͞os'kĭ.
Wisconsin, wĭs-kŏn'sĭn.
Woonsocket, wo͞on-sŏk'et.
Worcester, wo͝os'ter.
Wyoming, wī-ō'mĭng.

Yablonoi, yä-blō-noi'.
Yakutsk, yä-ko͞otsk'.
Yang-tse, yăng'tsē.
Yarkand, yär-känd'.
Yazoo, yă-zo͞o'.
Yenesei, yĕn-ē-sā'ē.
Yesso, yĕs'sō.
Yokohama, yō-kō-hä'mä
Yonkers, yŏnk'ers.
Yosemite, yō-sĕm'ĭ-tē.
Yucatan, yo͞o kä-tän'.
Yukon, yo͞o'kŏn.

Zacatecas, zäk-a-tā'kas.
Zambezi, zäm-bā'ze.
Zanzibar, zăn'zĭ-bär.
Zululand, zoo'lo͞o-land.
Zurich, tsū'rĭk.
Zuyder Zee, zoi'der zā'.